A STUDY OF DECISION-MAKING BEHAVIORS IN SMALL BUSINESS FIRMS IN HONG KONG

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ABSTRACT

The small business founders in Hong Kong are , instead of being called entrepreneurs, often being called opportunists. They are widely regarded as flexible, quick in response, money-oriented and shortsighted. Family business and authoritative decision-making style are the other features. This study is aimed at finding out the validity of this understanding and the relationships between endogenous psychological characteristics of individual entrepreneneurs and their decision styles in small business in Hong Kong . Over concentration of decision-making power on the entrepreneur likely imposes a barrier to further growth in today's complicated business situation which so often requires professional decision-making in different functional areas. The role of the entrepreneur as the Jack-of-the-trade is going to cause problems to the management of the firm as it grows. The study is made to give an address to the paradox that the favourable characteristics of the entrepreneurs are, on the contrary, part of the retarding factors for growth of small business.

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CHAPTER I

INTRODUCTION

The economy of Hong Kong is characterized by the dominance of small business firms. Small manufacturers with less than 50 employees increased from 84 percent in 1951 to 92 percent in 1977 in the total number.(9, p. 17) These small firms employed about 40 percent of the industrial labour force (and 18 percent of the total labour force), produced 29 percent of the total value added, and contributed 11 percent of the Gross Domestic Product. (9, p.62). During the first five years since China implemented its open-door economic policy in 1979, there had been a rapid increase in numbers of small trading firms in Hong Kong, which is shown in Table 1. According to the latest statistics published by the Census and Statistics Department, in 1988 there were around 177,000 companies which have number of employees less than 20 (See Table 2), comprising 92 percent of the total number of firms.

Most Hong Kong people worked for small companies and these companies are mostly owned by family members. The head of the business has the power to act and make decisions. Loyalty is emphasized. Division of labour, delegation of authority and responsibility have usually been regarded as constraints on the promptness of

TABLE 1

NUMBERS OF FIRMS WITH DIFFERENT EMPLOYMENT SIZE
IN 1977 TO 1983

Employment Size	1977	1978		1979		1980		1981		1982		1983	
1 - 4	40616	41791	3%	44029	5%	45278	3%	51098	13%	57237	12%	61165	7%
5 - 9	10918	10543	-3%	11135	6%	12079	8%	12288	2%	13020	6%	13280	2%
10 - 19	3246	3194	-2%	3461	8%	3915	13%	3765	-4%	4194	11%	4247	1%
20 - 49	1083	1089	1%	1171	8%	1393	19%	1297	-7%	1462	13%	1452	-1%
50 - 99	203	196	-3%	218	11%	243	14%	241	-3%	269	12%	264	-2%
100 - 199	61	73	20%	81	11%	82	1%	84	2%	90	7%	112	24%
200 - 499	28	30	7%	35	17%	31	-11%	32	3%	43	34%	38	-12%
500 - 999	3	3	0%	2	-33%	4	100%	4	0%	2	-50%	3	50%
1000 and over	0	0	0%	1	100%	2	100%	1	-50%	1	0%	1	0%

(The percentages indicate the percentage changes as compared with previous year)

Source : Hong Kong Annual Digest of Statistics 1984 ed.
Census and Statistics Department, Hong Kong

TABLE 2

NUMBER OF FIRMS IN DIFFERENT EMPLOYMENT SIZE
IN VARIOUS SECTORS IN 1988

Emloyment Size	Manufacturing	Wholesale, Retail, Import & Export Trades	Restaurants & Hotels	Financing, Insurance, Real Estate, Business Service
1 - 9	35066	102343	4860	17559
10 - 19	7219	6370	1738	2019
20 - 49	5032	2208	1213	1217
50 - 99	1977	443	391	341
100 - 199	828	176	257	174
200 - 499	356	63	95	96
500 - 999	105	11	19	17
1000 and over	23	-	5	6

Source : Hong Kong Annual Digest of Statistics 1989 ed.
Census and Statistics Department, Hong Kong

decision-making. (11, p.129-138) On the other hand, flexibility, close clientele relationships, creativity and quick response to market, (11) which are the characteristics of small business, are regarded as important factors for the survival of these small business firms. They are so flexible that they are often recognised by outsiders as firms that survive without long-term planning but only involving in short-term tactical solutions for immediate problems. These firms concentrate on strategies of responding rapidly to changes in market situations and have put aside long range innovative considerations. The garment, metal, toy, textile and electronic industries have been practising such style of management. There have been a lot of discussions and studies on the success of these enterprises as well as their contributions to the overall development of Hong Kong economy. Yet, despite the preponderance of these small businesses, literature regarding small firms decision-making in Hong Kong is limited.

Focus of Study

In studying entrepreneurship, most of the studies concentrate on the personal traits and characteristics of successful entrepreneurs. Timmons and his colleagues derived from 50 research studies that entrepreneurs are determined, initiative and impatient. (10) McClelland concluded that entrepreneurs are persons of high need for achievement, (7) which is in line with the description

made by Hornaday and Aboud. (13) Sexton found that they are energetic and ambitious. (14) In other words, to name a few, entrepreneurs are people who are decisive, impatient, action oriented, risk taking, and of high needs for achievement. However, the trait approach is far from satisfactory. Kao (6) commented that it lacks specificity, refers largely to men, and is not applicable in all cultures. Many traits used to describe entrepreneurs are too common and universally applicable to many managers. From the descriptions of the traits, we do not know which are necessary conditions for entrepreneurship and even we cannot derive which characteristics are uniformly associated with success. The traits listed are also too positive, "entrepreneur" is often related to and synonymous with "goodness".

Beside the disadvantages described above, underlying among these apparent factors of entrepreneurship is a latent factor which contributes in accomplishing important and demanding goals. This is the style of thinking, or the decision-making style. It is so unobvious that Rowe and Mason called it a "hidden factor" which people may tend to ignore it. (8) They found that "where style is aligned with the requirements of the job, performance is often successful, and where it is not so aligned, performance does not meet the person's potential". (8, p.1) But in what ways does the decision making style contribute to the success, that is the survival and growth of the firms. Is it the personal characteristics of the entrepreneurs determine his or her

management and decision making style which in turn characterize the special characteristics of the Hong Kong's industries mentioned earlier or is it the characteristics of industries, totally determined by the non-human aspects of the economy, which have chosen candidates with a particular trait to be the survivors in the competition? Rowe and Mason, in emphasizing the importance of alignment of decision style and the tasks, (8) distinguished between passive alignment and active alignment which provided perspective to the questions. Passive alignment is like "fitting a square peg into a matching square hole" (8, p. 4) by which they meant that the success of the manager depend on the fitness of his decision style to the decision situations faced by him. On the contrary, active alignment is not a process of finding a fit but to actively achieve the alignment by reconfiguring "the decision environment so that one's style fits it well". (8, p.4) It is the dint of exceptional leaders' will power.

We find it interesting to find out the salient characteristics of the successful candidates in the small business world. We want to find out how the entrepreneurs make decision and how they perceive their own decision-making style, which in turn contributes to the growth and success of the firm. This study sets out to look into some of the basic factors influencing and shaping the decision making style of the entrepreneurs in Hong Kong and try to examine its relationship to survival and growth of small firms.

CHAPTER II

LITERATURE REVIEW

Not only are managers involved in a lot of daily operational decisions, but every single person has to face hundreds of decisions each day. The only difference is that the decisions made by managers often affect thousands of other people. (4, p.100) Decision making has always been a hot topic of discussion in managerial studies. It is described as the process of defining problems, generating alternative solutions, choosing one alternative and implementing it. (5) But underlying this process is the style of decision-making which reflects how the decision makers visualize and think about situations. As described by Rowe and Mason, decision making style

> "has to do with mental predisposition concerning personal objectives, what situations one avoids, what kinds of jobs one enjoys, what things one dislikes, how one communicates, and how one approaches problems and make decisions." (8, p.2).

They believed that there must be patterns in these styles but which are not visible and conscious to people.

Jung's Theory of Psychological Types

Carl Jung's theory of psychological types is deemed to be the first comprehensive theory of style. (5) According to Jung, people react psychologically to the

situations with which they are faced in two fundamental ways. He gave the term "preferences" to describe the characteristic tendencies to respond to a situation in a constant and predictable way he called "preferences", which determine how people carry out the following two types of psychological functions :

(1) The Information Gathering Function :

This involves one's preferences as to how one acquires information about a situation. This information gathering function can take one the of two forms, depending on the flow on events and how stimuli reach a person's mind:

(a) Sensation type

This "type" consists of people who rely heavily on facts. They totally trust and remember facts. They work on them instead of looking for possibilities and relationships. Hellreigel, et al. (3) described them as persons who "tend to:

- dislike new problems, unless there are standard ways to solve them;
- enjoy using skills already acquired more than learning new ones;
- work steadily, with a realistic idea of how long a task will take;
- work through a task or problem to a conclusion;
- be impatient when details get complicated;
- distrust creative inspirations". (3, p. 93)

(b) Intuition type

This "type" consists of people who prefer looking at possibilities to facts. They like to solve new problems, dislike routine and

repetitive work, dislike wasting time on details.

Hellreigel described them as persons who "tend to:

- keep the total picture or overall problem continually in mind as problems solving proceeds;
- show a tendency, willingness, and openness to continually redefine the problem;
- rely on hunches and nonverbal cues;
- almost simultaneously consider a variety of alternatives and options and quickly discard those judged unworkable;
- jump around or back or forth among the usual sequence of steps in the problem-solving process and may even suddenly want to reassess whether the 'true' problem has even been identified." (3, p. 94)

(2) The Information Evaluation Function:

This function is determined by one's preferences for the means of internalizing information, processing it, and finally making judgements about it. It also takes one of the following two forms:

(a) Feeling type

This "type" consists of people who are aware of others and their own feelings. They care for how the decisions they made will affect the emotional well-being of others. These people "tend to:

- enjoy pleasing people, even in ways that others consider unimportant;
- dislike dealing with problems that require telling other people something unpleasant;
- be responsive and sympathetic to other people's problems;
- view the causes of inefficiency and ineffectiveness as interpersonal and other human problems". (3, p. 95-96)

(b) Thinking type

This "type" consists of people who prefer

objective and impersonal principles. They believe in logical and analytical bases for a decision. These people "tend to:

- make a plan and look for a method to solve a problem;
- be extremely conscious of and concerned with the approach to a problem;
- define carefully the specific constraints in a problem;
- proceed by increasingly refining an analysis;
- search for and obtain additional information in a very orderly manner". (3, p. 96)

Exhibit 1 shows a model of summarizing the managerial decision-making style based on the four psychological functions.

EXHIBIT 1

MANAGERIAL DECISION MAKING STYLE BASED ON JUNGIAN PSYCHOLOGICAL FUNCTIONS

Intuition (N)	NF Type	NT Type
Sensation (S)	SF Type	ST Type
	Feeling (F)	Thinking (T)

In exploring the "hidden factors" of decision-making style, Rowe and Mason built up four basic styles. They described two aspects of how our mind works :

(1) Cognitive complexity :

Under this aspect, a person may have either a low tolerance for ambiguity (that is, a high need for structure) or a high tolerance for ambiguity.

(2) Value orientation:

The mind works either to human and social concerns or to task and technical concerns.

They then combined these two dimensions and derived four basic styles of decision making:

(1) Directive style:

This style has low tolerance for ambiguity and is task-oriented and technical concerned. The directive style person implements operational objectives in a systematic and efficient way.

(2) Analytical style:

This style has a high tolerance for ambiguity and is task-oriented and technical concerned. This type of person emphasizes analysis, planning, and forecasting.

(3) Conceptual style:

This style has a high tolerance for ambiguity and is people-oriented and social concerned. A conceptual style person explores new options and forms new strategies. They are creative and risk-takers.

(4) Behavioral style:

This style has a low tolerance for ambiguity and is people-oriented and social concerned. A person of this type focuses on people and is concerned about their needs. The directive and analytical styles are both logical while the conceptual and behavioral

styles are less logical in approach.

In 1957, Briggs and Myers (1) set up a measuring instrument, the Myers-Briggs Type Indicator (MBTI), which intended to sort people into Jungian categories. Since the MBTI has proved to be useful for such research purposes, it has been used over years as a research instrument.

Rowe and Mason compared their model of styles with the research results of MBTI and found the following relationships of their four styles with those of Jung's:

- The directive style most resembles the Jungian ST type;
- The analytical style most resembles the NT type;
- The conceptual style most resembles the NF type; and
- The behavioral style most resembles the SF type.

The above patterns of resemblance are summarized in Exhibit 2. It is clear that the simple mapping of Jung's ,and Rowe and Mason's style is a clear indication of how Jung's psychological types are favourably applied. Rowe and Mason's decision style can be seen as a manifestation of Jung's psychological types in the context of decision-making and management.

Heller's Model of Leadership Styles

On assessing the type of leadership, there is also a number of measuring instruments. The most widely used scales is the single split between democratic and authoritarian types. However, this type of bi-axial

scale is usually ill-defined and value-laden. Frank Heller (2) developed a scale called the Influence-Power

EXHIBIT 2

A COMPARISON BETWEEN JUNGIAN TYPOLOGY AND ROWE AND MASON'S DECISION MAKING STYLES

Intuiting (N)	NT Type (Analytical)	NF Type (Conceptual)
Sensing (S)	ST Type (Directive)	SF Type (Behavioral)
	Thinking (T)	Feeling (F)

Continuum (IPC) which measured varying amounts of sharing influence or power by studying the styles of decision making. The IPC categorizes leadership, hence managerial decision-making style into the following six styles:

Style 1 : The manager makes the decision alone without explaining the decision to his/her subordinates.

Style 2 : The manager makes the decision alone but explains the decision to his/her subordinates.

Style 3 : The manager asks for the opinions from his/her subordinates before making the decision but the

decision is still made by the manager alone.

Style 4 : The manager makes the decision together with his/her subordinates.

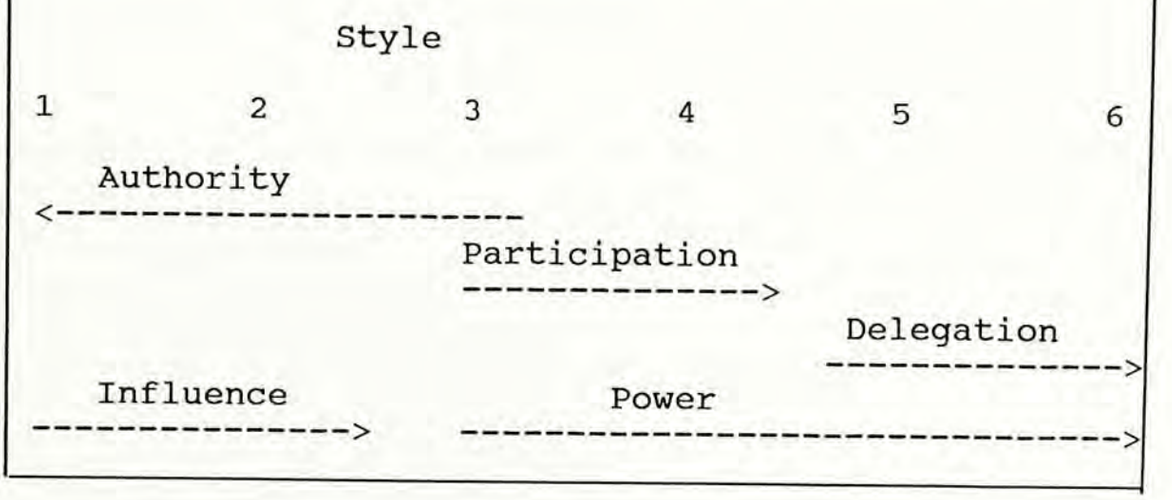
Style 5 : The manager decides to let his/her subordinates make the decision but requires the subordinates to report to him/her immediately after the decision is made.

Style 6 : The manager decides to let his/her subordinates make the decision which will be reported only at regular business meetings.

The six styles of leadership lie on a continuum of power sharing between the superior and the subordinates in decision making. This continuum is shown in Exhibit 3.

EXHIBIT 3

THE INFLUENCE-POWER-SHARING CONTINUUM



Style 1 is the most authoritative style with least power-sharing in decision-making. Style 3 to 4 are

described as participative styles and Style 5 to 6 are referred as delegation. More decision-making power is shared with the subordinates as the entreprenuer chooses styles towards the right hand side.

Decision-making is an important function in management behavior. Smith, et al. (15) made a research on how comprehensive decision-making affects organisational performance. A comprehensive decision maker is a person who pursues the rational decision making process. This process involves steps of identifying and diagnosing the problems, analysing the environment, articulating the problem or opportunity, developing and evaluating alternatives, choosing and implementing a decision and finally evaluating and adapting the decision results. (4, p. 106-112) A comprehensive decision maker tries to gather as much information as possible and evaluates them. However, since most entrepreneurs are described as impatient and quick to respond, it is expected that their decision-making should be less comprehensive. Smith's research results confirmed this prescription. Fann and Smeltzer (12) also found that even in analysing competitors behaviors, small business owners or managers do not gather extensive information on their competitors for either long-range planning or operational decision-making. But even when they gather information informally, they place little importance on the information and do not engage in any systematic analysis. Smith concluded that firms with the best performance were

managed by entrepreneurs with very comprehensive decision-making behavior. They suggested that entrepreneurs should attempt to apply some formal rational decision model to aid their decision-making.

In Hong Kong where the economy is dominated by small business firms mostly owned by families and affected by the Chinese culture, it is expected that the management style should be relatively autocratic in which power sharing and delegation must be difficult. When business expands causing the firm to grow and become more professional, will this type of management style and the less comprehensive decision-making behavior affect or inhibit the performance of these small business firms?

CHAPTER III

THEORETICAL FRAMEWORK

Apart from our interest in whether Jung's psychological types are the determinants affecting decision-making style, we postulate some other factors that may affect the decision-making style of the small business entrepreneurs in Hong Kong. We divide them into two categories. One category comprises the endogenous factors including Jung's psychological types, motivation, risk attitude and time horizon for business decisions. The other comprises the three general demographic factors of sex, age and education. There are arguments for an association between growth, given in this study by the cross-section of firm size, and the decision-making style. We adopt Heller's influence-power-sharing approach in this study.

Size of the firm and the decision-making style

As a firm expands its scope and volume of business, it has to inevitably employ more staff. Many of them are specialists in areas such as accounting, marketing and administration. Specialisation is one of the outcomes of the growth of the firm. The entrepreneur is no longer able to cope with every aspect of the business with great care. He cannot make all the

decisions for the firm. If he does so, he will likely not be able to make optimal decisions and thus will ruin the business. In order to maintain effectiveness and efficiency, the entrepreneur has to share the decision-making power with his subordinates. The subordinates, with specialised knowledge and skills in their particular areas, become more eligible to make some of the vital decisions for the firm when its size grows larger. Eventually the entrepreneur has to, even though not willing to, share some decision-making power with his subordinates.

On the one hand, because of specialisation and increase in the number of staff, the entrepreneur has to allow for more participation and delegation in decision-making. On the other hand, there is a tendency that the incidence of failure is higher if the entrepreneur does not share its decision-making power with his subordinates. Hence, there is a greater tendency to find sharing of decision-making power as the firm becomes larger.

Exhibit 4 summarised the relationships described above.

Therefore, the size of the firm (measured by the number of staff) is positively related to decision-making styles. (See Exhibit 5).

Hypothesis :

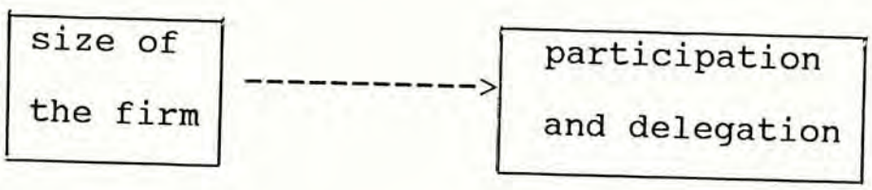
H_0: The decision-making style bears no relationship with the size of a firm .

H_1: The larger the firm, the greater propensity by entrepreneurs to delegate decisions to subordinates.

EXHIBIT 4

SIZE OF FIRM, GROWTH AND DECISION MAKING STYLE

1. Result of specialisation and increase in the number of staff



2. Participation and delegation are beneficial to the growth of the firm

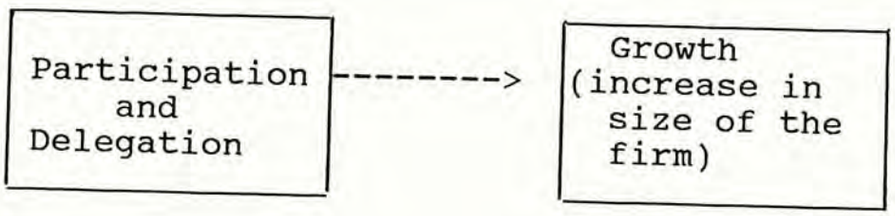
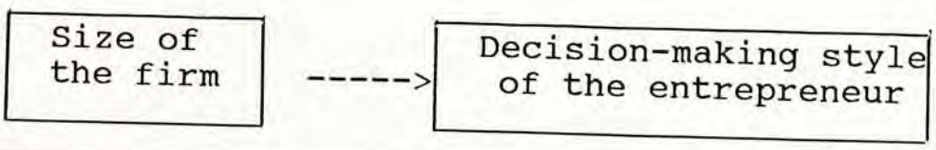


EXHIBIT 5

DECISION-MAKING STYLE AND THE SIZE OF FIRM



Individual Endogenous Factors of the Entrepreneur

Jung's Psychological Types
Sensation and Intuition,
Thinking and Feeling.

Sensation Type and Intuition Type (S and N)

"Sensation-type" persons emphasize past experience. They are pragmatic and believe in what they see rather than what they can imagine. They work through a task until they get to the solution. They tend to get things done efficiently.

These characteristics fit in with the general description of the small business entrepreneurs in Hong Kong who are said to be pragmatic efficient and result-oriented. They are not regarded as imaginative. They do not create the opportunities but exploit the opportunities once they are aware of them.

On the other hand, the "intuition-type" persons are described as imaginative. However, they tend to think too much without making decisions and let opportunities pass away. The small business entrepreneurs in Hong Kong are not seen as visionary as the intuition-type persons are. This does not fit in with the general description of the commonly understood characteristics of small business entrepreneurs in Hong Kong.

We expect, therefore, the proportion of entrepreneurs belonging to the "sensation-type" should be much higher than the "intuition-type" entrepreneurs in

small businesses in Hong Kong.

Hypothesis :

H_0: Sensation-type entrepreneurs are just as many in number as the intuition-type.

H_1: There are significantly more sensation-type than intuition-type entrepreneurs in small business in Hong Kong.

Thinking-type and Feeling-type

According to the classification of Jung, in evaluation of information, people can be classified into two types. They are the "thinking-type" and the "feeling-type". Thinking-type persons tend to value logical elements in problems while the feeling-type persons tend to put emphasis on people's feeling. The study assumes entrepreneurs have to appreciate the subtleness of human interaction as well as to keep themselves within the framework of rational thinking in order to be successful.

Hypothesis :

H_0: There are as many thinking-type as feeling-type entrepreneurs in small business.

H_1: There is a predominance of one type over the other in small business.

Monetary Motivation

It is often said that the Hong Kong people, particularly businessmen, are money-oriented. Their

motivation for success comes mainly from their pursuit of materialistic needs. Consequently the force working behind small business ventures is the materialistic needs of entrepreneurs. If this is true, entrepreneurs do not bear non-materialistic goals in mind when they plan their business and they may lack the spirit of social responsibility and behave unethically.

Maslow categorised needs in the form of hierachy. The most basic one is the economic needs which are important as the requirement for basic survival. Many small businesses and their owners are at the stage of struggling for survival. If this is true, this may explain the predominance of money motivated entrepreneurs in Hong Kong. It may well be a description of the need of the entrepreneur at the time when the firm is small and susceptible to a great many of uncertainties.

Hypothesis :

H_0: Non-monetary motivation is as important as monetary motivation to entrepreneurs.

H_1: Entrepreneurs are money motivated.

Time Horizon

Entrepreneurs of small businesses are regarded as shortsighted in their attitudes towards long-term development. They simply try to maximize short-term profit. They are prepared to switch to other industries once they find their businesses do not provide the levels of expected return. They lack the long-term commitment

which is essential for development and growth.

People argued that Hong Kong government should take a leading role in research and development for industries in the colony because manufacturers in Hong Kong are small and cannot allocate funds for this purpose. Government has to take a central role to help the industry otherwise the industry will lag behind the competing newly developed economies such as Korea, Taiwan and Singapore.

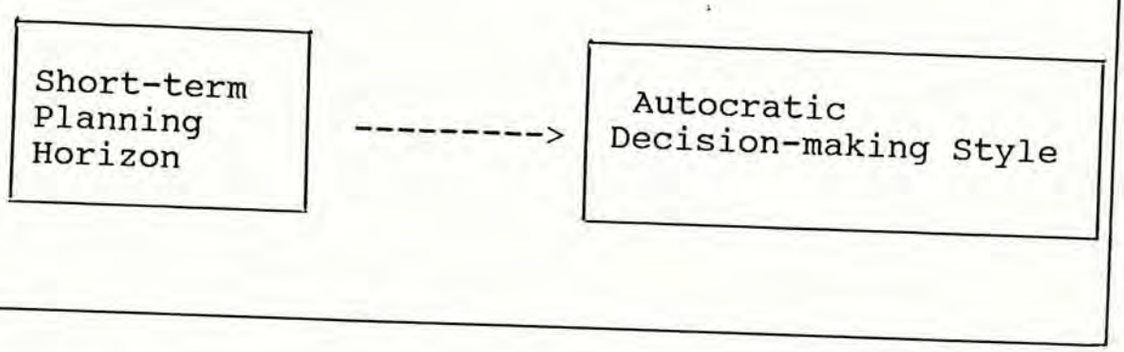
The economy is now facing the problem of 1997 when it will be returned to China under the joint declaration between the China and the U.K. governments. Because of the uncertainties involved in changing sovereignty, it causes particular concerns as the two governments are working on two different systems and sets of principles. There are latent risks in long-term investments which have longer payback periods. Rational investors will apply a higher discount rate for future incomes or, in other words, will place greater value on short-term returns. This tends to exaggerate the short-term behavior of small business entrepreneurs which have been generally believed to emphasize short-term planning horizon.

Under this consideration, we believe that most of the small business entrepreneurs are shortsighted. This has a certain effect on the growth of the business. Entrepreneurs do not look far into the future because they feel unsafe to make strong assumptions about events too far into the future. If this is true, they tend to

demand tighter control on their business. Consequently, their decision-making style is likely to be more autocratic. (See Exhibit 6)

EXHIBIT 6

TIME HORIZON AND DECISION MAKING STYLE



Hypothesis :

H_0: Short-term planning horizon of entrepreneurs does not affect their decision-making style.

H_1: Short-term planning horizon of entrepreneurs causes them to be more autocratic in decision-making.

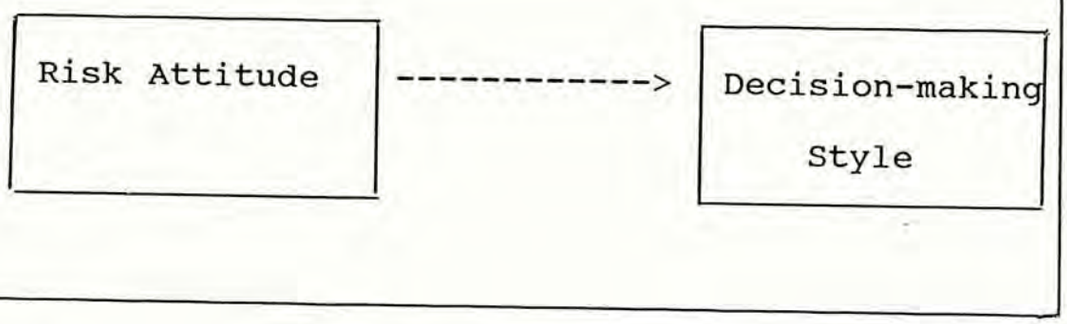
Risk Attitude

Risk attitude will affect decision-making style. Risk takers tend to be autocratic in decision-making style because they take up risky ventures and hence they want to have more control of their business. They do not welcome additional risk in their ventures by delegating

decision-making power to subordinates. The counter argument is that risk-takers are more ready to delegate or allow their subordinates to participate in decision-making. Consequently, if either argument is true, there should be a correlation between risk-taking and decision-making style. (See Exhibit 7)

EXHIBIT 7

RISK ATTITUDE AND DECISION MAKING STYLE



Hypothesis

H_0: Risk attitude has no effect on decision-making style of entrepreneurs in small business.

H_1: Risk attitude does have an effect on decision-making style.

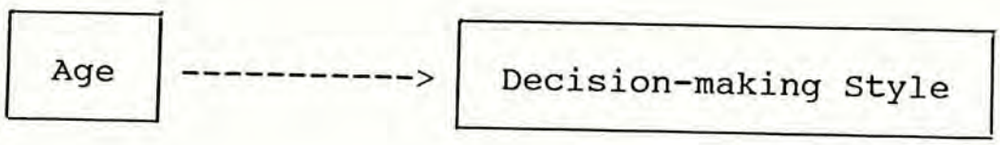
Demographic Variables

Sex, age and education each has a bearing on decision-making style. Age may have two effects. When entrepreneurs get older, they have to delegate the decision-making power to subordinates simply because

they have to look for successors and they may not be as energetic as when they were young. It may also be the case that older entrepreneurs may not delegate and rely on personal prerogatives. If these factors are correct, then decision-making style will be affected by age.(Exhibit 8)

EXHIBIT 8

AGE AND DECISION-MAKING STYLE



Hypothesis :

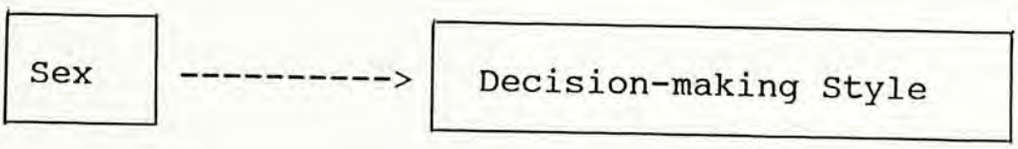
H_0: The age of the entrepreneur does not affect his or her decision-making style .

H_1: The age of the entrepreneur affects his or her decision-making style.

Sex may have an effect on decision-making style and the relationship is examined. (Exihibit 9)

EXHIBIT 9

SEX AND DECISION MAKING STYLE



Hypothesis :

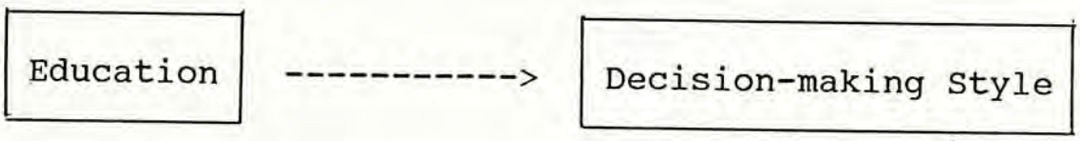
H_0: Sex does not affect decision-making style.

H_1: Male and female entrepreneurs have different tendency in decision-making style.

Entrepreneurs with higher education levels are expected to be more democratic and willing to share power with their subordinates. (Exhibit 10)

EXHIBIT 10

EDUCATION AND DECISION MAKING STYLE



Hypothesis :

H_0: The education level of entrepreneurs does not affect decision-making style.

H_1: Higher educated entrepreneurs will share power in decision-making.

The Overall Theoretical Framework

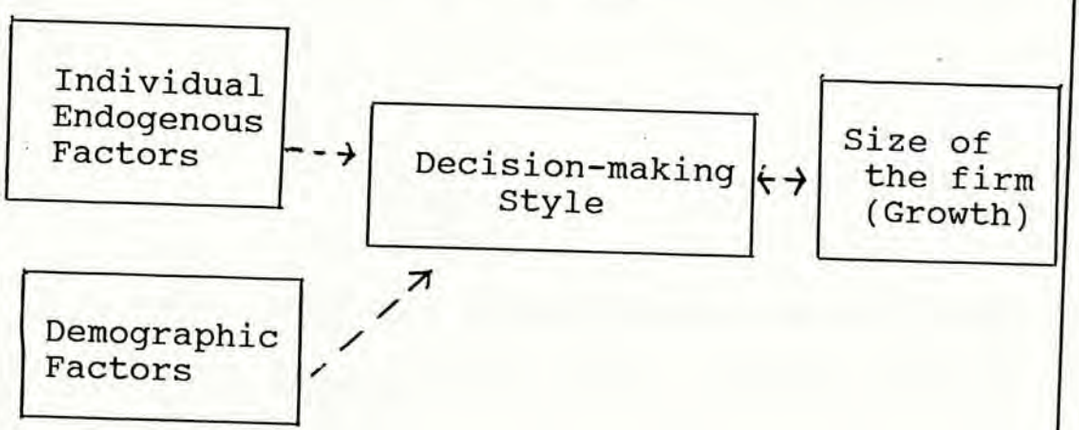
The overall theoretical framework can be summarised as in Exhibit 11. Decision-making styles are influenced by two sets of variables in this study. One set consists of individual endogenous factors including

psychological type of the person, motivation type, time horizon and risk attitude; the other set consists of the demographic variables including sex, age and education level.

Decision type has an influence on the growth of the firm while the size of the firm also affects the choice decision-making style of the entrepreneur. (Exhibit 11)

EXHIBIT 11

THE OVERALL THEORETICAL FRAMEWORK OF THE STUDY



Individual endogenous factors :
- Psychological types
- Motivation type
- Time horizon
- Risk attitude

Demograhic factors :
- Sex
- Age
- Education

CHAPTER IV

RESEARCH DESIGN

Objective

The survey was held to find out the profile of the entrepreneurs of small business in terms of their demographic characteristics and their individual endogenous factors. The data collected were used to substantiate the theoretical framework established in Chapter III.

Sampling

In order to have respondents coming from a similar business environment with similar types of decision, we drew samples from a narrowly defined industry. This would keep the variation due to differences in business nature to the minimum. We drew samples from a list of commercial companies kept by the Cable and Wireless Corporation Limited. Specifically, the samples included companies of import and export business in raw materials with employment size not more than 20 staff. The total number of firms in the list was 5,200. The sample was drawn to include every ten in the list

until we got a sample of 500.

Mailing Questionaire

A questionaire was prepared with a covering letter asking for co-operation from the subjects and promising confidentiality of individual information. The nature of the study was explained. Questionaires were not numbered to make sure that companies studied were not in some way identifiable. This meant that no follow-up in non-response was done. This was certainly a weakness in this study but this, on the other hand, would encourage returns.

A stamped envelop was attached to each questionaire to ensure return. A two-week deadline was set to ask the subject to reply as soon as possible. Since the questions asked were simple and could be finished within ten minutes, we did not allow a more lenient deadline because it would simply cause the subject to forget to reply.

The questionaire was written in Chinese on assumption that not every small business entrepreneur had a good understanding of English management terms. By having questionaires printed in Chinese, it would again encourage returns and avoid a baise towards respondents with good English proficiency in the data set.

Among the 500 questionaires mailed out, 18 were returned by the Post Office because the addresses and the companies did not match. Sixty-six questionaires were

completed and returned.

Screening Criteria

There were 40 questions in the questionaire. A number of questions were designed to screen out those firms which were not regarded as the typical firms we wanted to study. A set of screening criteria was established to select those relevant firms from all the questionaires collected. Firms being studied were survivors in this volatile business environment. Entrepreneurs selected were all Hong Kong Chinese to reduce variation due to cultural differences. Questionaires which did not fit into these criteria were discarded.

The screening criteria were:

1. Survival of the firm
    a. The firm should have a minimum of four years of business operations.
    b. The firm should have achieved growth in long term profits and sales by comparing its 1989 performance with the performance of the past four years.
    c. There was no decreasing trend in the number of staff from 1985 to 1989.
2. The subject of study must be Hong Kong Chinese.
3. The number of staff of the firm must be equal to or less than 20.

The screening criteria were established to make

sure that the subjects of our study were small trading firms owned and managed by Hong Kong Chinese which had exhibited their ability to survive in the highly competitive and volatile business environment in Hong Kong.

Out of the 66 questionaires completed and returned, 55 were accepted which were good and fit in with the screening criteria.

Variables and their measurement

Twenty questions were designed to determine the psychological type of the respondent. Ten were on information gathering type (S and N); ten were on information evaluation type (T and F). There were no missing values in these questions probably because they did not require considerable thinking or recall of memory. Each set of questions combined to give scores of 1 to 10 on each of the two psychological areas.

Respondents were asked to reveal their motivation for success. They were asked to tell the importance of each of the four motivations, namely monetary return, growth of the company, job satisfaction and recognition from the others. A 7-point scale was used. There were some missing values in these questions.

To measure the risk attitudes of the respondents, we asked them to tell their required rates of return in two different investment situations. One involved a larger proportion of their wealth and a higher probability of failure. The other involved a smaller

proportion of their wealth and a smaller probability of failure. The quotient of the two rates of return was used as a measure of the risk attitude of the individual. The higher the value, the more risk-averse the individual was. (See Exhibit 12) There were some missing values in these questions.

EXHIBIT 12

RISK ATTITUDE MEASUREMENT

$$\text{Risk attitude} = \frac{\text{Return required at higher risk situation}}{\text{Return required at lower risk situation}}$$

To measure the perceived business time horizon, the respondents were asked to tell the lengths of time which defined their understanding of "long-term" in their business. This variable, time horizon, was represented by the number of years which the respondent believed to be the "long-term" for him or her.

Questions on age, sex, education and the size of firm were asked to measure these variables.

Respondents were asked to identify their decision-making styles in the following seven areas. They were:

1. Recruitment of direct subordinates : Recruitment of staff working directly under the entrepreneur.
2. Recruitment of indirect subordinates : Recruitment of staff not working directly under the entrepreneur.

3. Financial matters : Lending, borrowing, credit arrangement, short-term investment etc.
4. Short-term marketing decisions : Pricing, day-to-day transactions, sourcing etc.
5. Long term marketing decisions : Expansion into new market, establishing new agency, diversing into other product lines etc.
6. Strategic development of the firm : Finding new partners, moving to a new location, changing the organisation structure, computerisation of operations etc.
7. Daily administration : Purchases of office stationery, maintenance of equipment etc.

They were given six decision-making styles to choose for the answers. The six choices were:

Style 1 : The manager makes the decision alone without explanation to his/her subordinates.

Style 2 : The manager makes the decision alone with explanation to his/her subordinates.

Style 3 : The manager asks for the opinions from his/her subordinates before making the decision but the decision is still made by the manager alone.

Style 4 : The manager makes the decision together with his/her subordinates.

Style 5 : The manager decides to let his/her subordinates make the decision but requires the subordinates to report to him/her immediately after the decision is made.

Style 6 : The manager decides to let his/her subordinates make the decision which will be reported only at regular business meetings.

The six styles of decision-making lay on a continuum of power-sharing between the superior and the subordinates. The superior shared most power with the subordinates by Style 6 and held back power of decision-making by Style 1. We could thus assume an interval scale for decision-making by conceiving that these styles were showing the degree of power-sharing in decision-making.

The individual's scores on these seven decision-making areas were averaged to give an overall score for his or her decision-making style.

The size of the firm was determined by the question on the number of staff employed.

Exhibit 13 is a summary of the variables and their respective measurement.

Analysis

The analysis was done with the use of the SPSSPC statistical software. Programs and data are shown in the the appendix.

Endogenous Factors

Sensation-type against Intuition-type

Sensation-type persons were those score 6 to 10

EXHIBIT 13

SUMMARY OF THE VARIABLES AND THEIR MEASUREMENT

Endogenous variables	Type	Range
Psychological variables	Interval	0 to 10
. Information gathering		
. Information evaluation		
Motivation	Interval	1 to 7
Risk attitude	Continuous	
Time horizon	Continuous	
Demographic variables		
Sex	Nominal	M and F
Age	Continuous	
Education level	Interval	1 to 5
Size of the firm	Interval	1 to 20
Decision-making style in each decision-making area	Interval	1 to 6
Overall decision-making style	Continuous	1 to 6

for information evaluation variable. Those scored between 0 to 4 were regarded as intuition-type. If the two types were equal in number, the expected value of the sample mean was 5. The sample mean $\bar{x}$ was assumed to follow a normal distribution with standard error equal to $\sigma//\overline{n}$ where n was the sample size in this case 55 and σ the standard deviation. The estimate of standard error was given by $s//\overline{n-1}$ where s was the standard deviation of

the sample. The null hypothesis was that the number of sensation-type and the number of intuition-type entrepreneurs were equal. The alternative hypothesis was that there were more sensation-type than intuition-type entrepreneurs. The hypothesis was tested one tail with .05 significance. (Exhibit 14)

EXHIBIT 14

SENSATION-TYPE AGAINST INTUITION-TYPE

$\bar{x} \sim N(u, o^2/n)$

$E(\bar{x}) = u = 5$

$\hat{o}^2/n = s^2/n-1$

H_0: $u = 5$

H_1: $u > 5$

significance level = .05 , one-tailed

Thinking-type against Feeling-type

The analysis followed the same approach of the previous section on sensation-type against intuition-type. The null hypothesis was that thinking-type and feeling-type entrepreneurs were equal in number while the alternative hypothesis was that one type was great than the other in number. The test was a two-tailed test with significance of .05 at each end. (Exhibit 15)

Motivation Type

The four motivation scores were classified into

two types. One was the monetary motivation. The others were non-monetary motivation. The non-monetary motivation score was given by the average of the three scores. (Exhibit 16)

EXHIBIT 15

THINKING TYPE AGAINST FEELING-TYPE

$\bar{x} \sim N(u, o^2/n)$

$E(\bar{x})=u=5$

$\hat{6}^2 /n=s^2/n-1$

H_0: $u=5$

H_1: $u \neq 5$

significance level =.10, two-tailed

EXHIBIT 16

TYPES OF MOTIVATION SCORES

1. Monetary motivation score
2. Non-monetary motivation score
   = (growth of company + job satisfaction + recognition) /3

The analysis involved comparison of the difference between the two types of score. (Exhibit 17)

Time Horizon

The analysis here was to give a description about the planning time horizon of the subjects.

EXHIBIT 17

MONETARY AND NON-MONETARY MOTIVATION

Paired t-test

d= monetary motivation score
- non-monetary motivation

H_0: d = 0

H_1: d > 0

significance level = .05, one-tailed

Decision-making Style

The distribution of the six decision-making styles in each of the seven decision-making areas in this study would be described. We treated the six styles as a continuum and gave a score to the individual's decision-making style by averaging his or her scores in the seven decision-making areas. An example is given in Exhibit 18 to illustrate how the score is calculated.

Correlation Between the Demographic and Individual Endogenous Factors, and the Decision-making Style

To test whether sex had an influence on the decision-making style, the sample was divided into the male group and the female group and the sample means were compared to measure any difference. (Exhibit 19)

Forward regression was run with the decision-

making style as the dependent variable and the two demographic (age and education) and the five endogenous factors as independent variables. If there was significant difference between the male and the female groups, the regression would be run separately for the two groups. If no difference between the two groups was found, regression would be run with the entire set of data. R^2 and F-statistic were used to determine the correlation and the significance.

EXHIBIT 18

INDIVIDUAL'S DECISION-MAKING STYLE

	Recruitment		Marketing	
	Direct subordinate	Indirect subordinate	Long term	Short term
Style	1	2	4	2

	Financial matters	Strategic development	Daily administration
Style	3	1	5

The score for the individual's decision-making style

= (1 + 2 + 4 + 2 + 3 + 1 + 5)/7

= 2.43

EXHIBIT 19

SEX AND DECISION MAKING STYLE

Two groups t-test

H_0: $u_m = u_f$

H_1: $u_m = u_f$

t-test, two-tailed at significance of .1

Correlation Between Decision-making Style and Company Size (Growth)

Regression was run between decision-making style and the company size in terms of the staff number. R^2 and F-statistic were used to determined the correlation and the significance.

CHAPTER V

FINDINGS

Size of the company

The size of staff in this study was limited to 20 or below. The mean number of staff in the study was 11.67. The range was 2 to 20 with most occurences in either the maximum end of 20 or staff of five to nine. It showed a binodal distribution and a relatively rare occurence in the region of staffs of 10 to 14. (Graph 1) The findings suggested that according to this cross-section study of staff size, there might be an optimal size of staff depending on the size of operations. The growth of the company was not necessarily a smooth and continuous one but rapid increases of staff at different stages. It might be due partly to the need to change the hierachical structure and to build up an additional layer of management when jumping from one level to another rather than just increasing the number of staff to take up new jobs as the company grew .

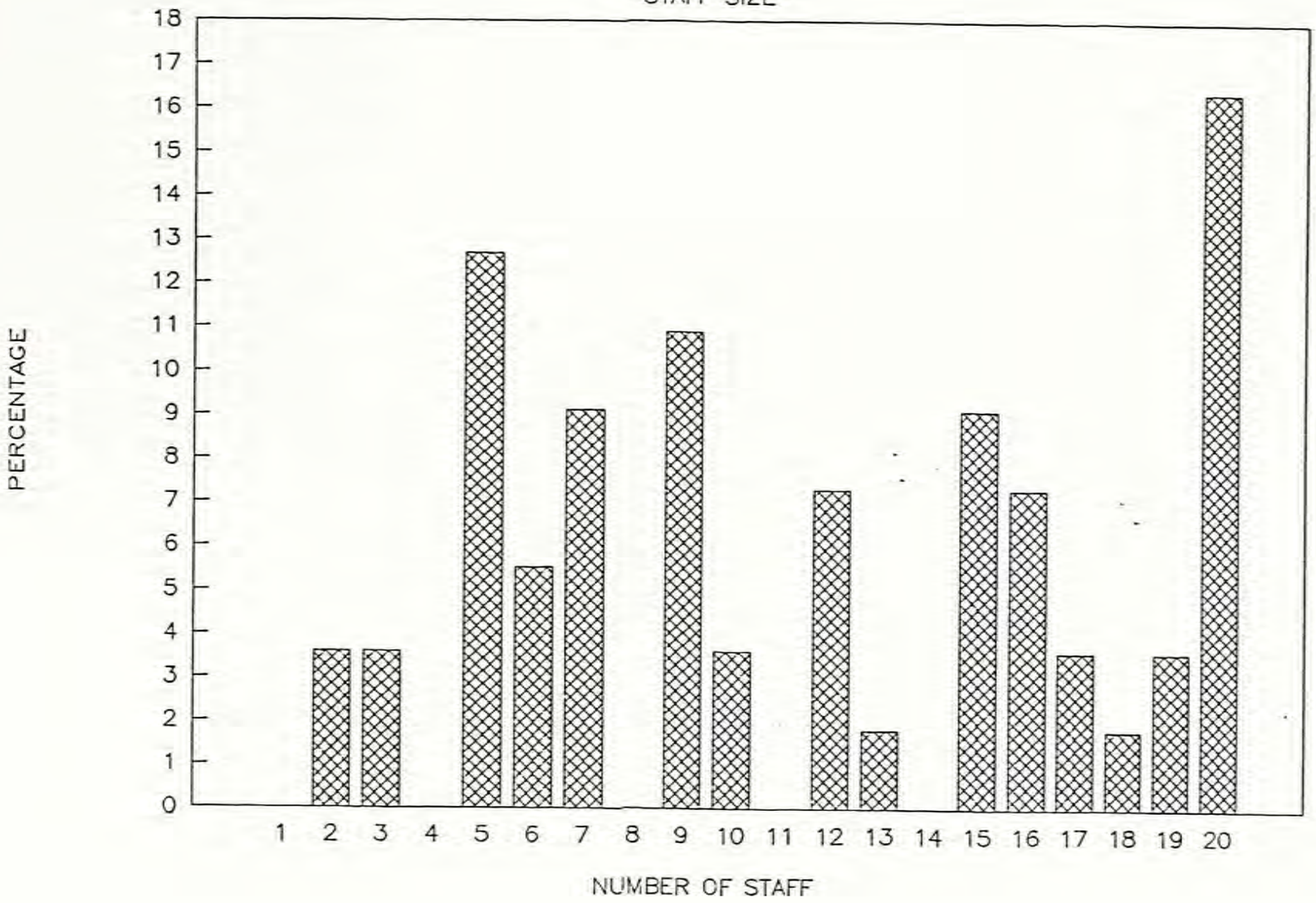
Demographic profile

Sex

There were 41 males and 13 females in the study

Graph 1

STAFF SIZE



representing 76.4 percent and 23.6 percent of the sample respectively. It showed that there were quite a substantial proportion of female in small business. (Graph 2)

Education

The education levels of the enterpreneurs found in this study were good in general considering the opportunities of higher education were relatively limited in Hong Kong. The age distribution of entrepreneurs found showed that most of them were educated in a time when formal education was expensive and not easily available. (Table 3, Graph 3)

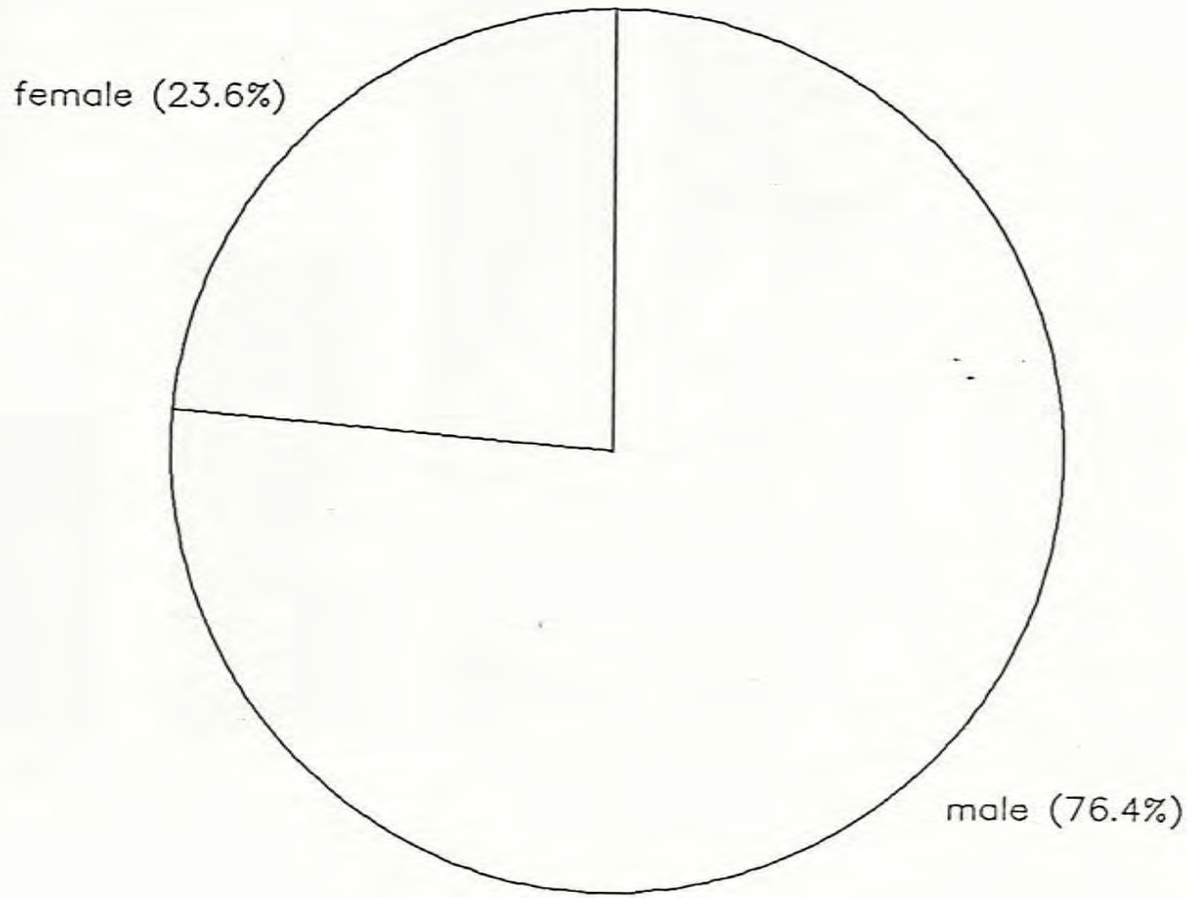
TABLE 3

EDUCATION LEVEL OF THE ENTREPRENEURS

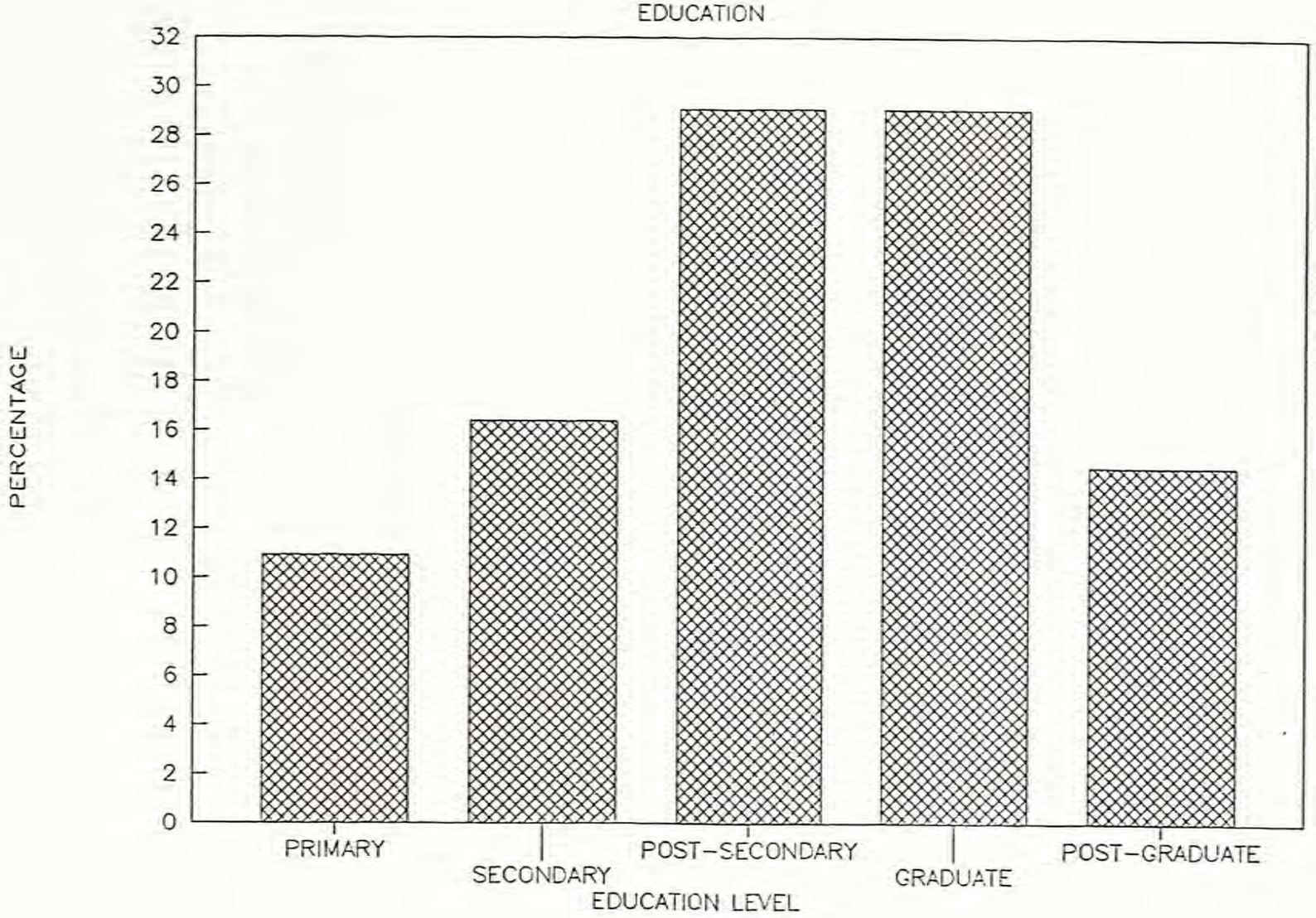
	Frequency (percent)
Primary	10.9
Secondary	16.4
Post-secondary	29.1
Graduate	29.1
Post-graduate	14.5
	100.0

Graph 2

SEX



Graph 3


EDUCATION
PERCENTAGE
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
PRIMARY
SECONDARY
POST-SECONDARY
GRADUATE
POST-GRADUATE
EDUCATION LEVEL

Age

The mean age of the sample was 44.36 and the range was 26 to 63. There was a substantial drop after the age of 55. Twenty-five percent of the entrepreneurs in this study aged 35 or less. There were a number of young entrepreneurs in the study. (Graph 4)

Endogenous Factors

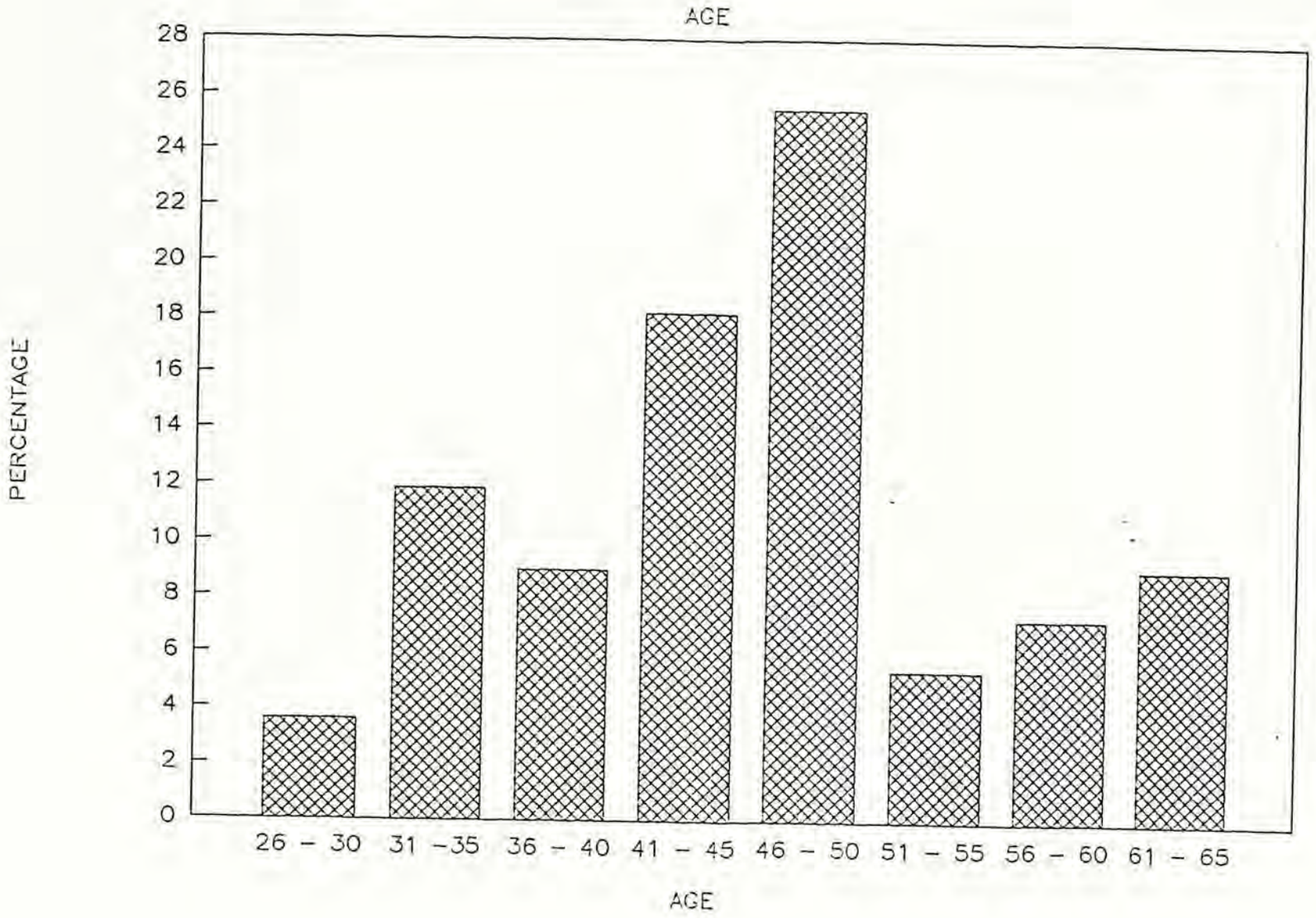
Jung's Psychological Types

Information Gathering - Sensation and Intuition

A score of 0 to 10 was used to measure the information gathering type. Ten was the extreme end of "sensation" and zero was the extreme end of "intuition". Five would be neutral. It was found that 87.3 percent of the subjects scored at least six. They were sensation-type. The rest scored five or below. No one scored less than three. The range was three to ten in this study. The mean was 7.58. (See Graph 5)

The null hypothesis that there were as many intuition-type as sensation-type entrepreneurs in small business was rejected. There were more sensation-type entrepreneurs. (Exhibit 20)

Graph 4


AGE
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
PERCENTAGE
26 – 30
31 –35
36 – 40
41 – 45
46 – 50
51 – 55
56 – 60
61 – 65
AGE

Graph 5

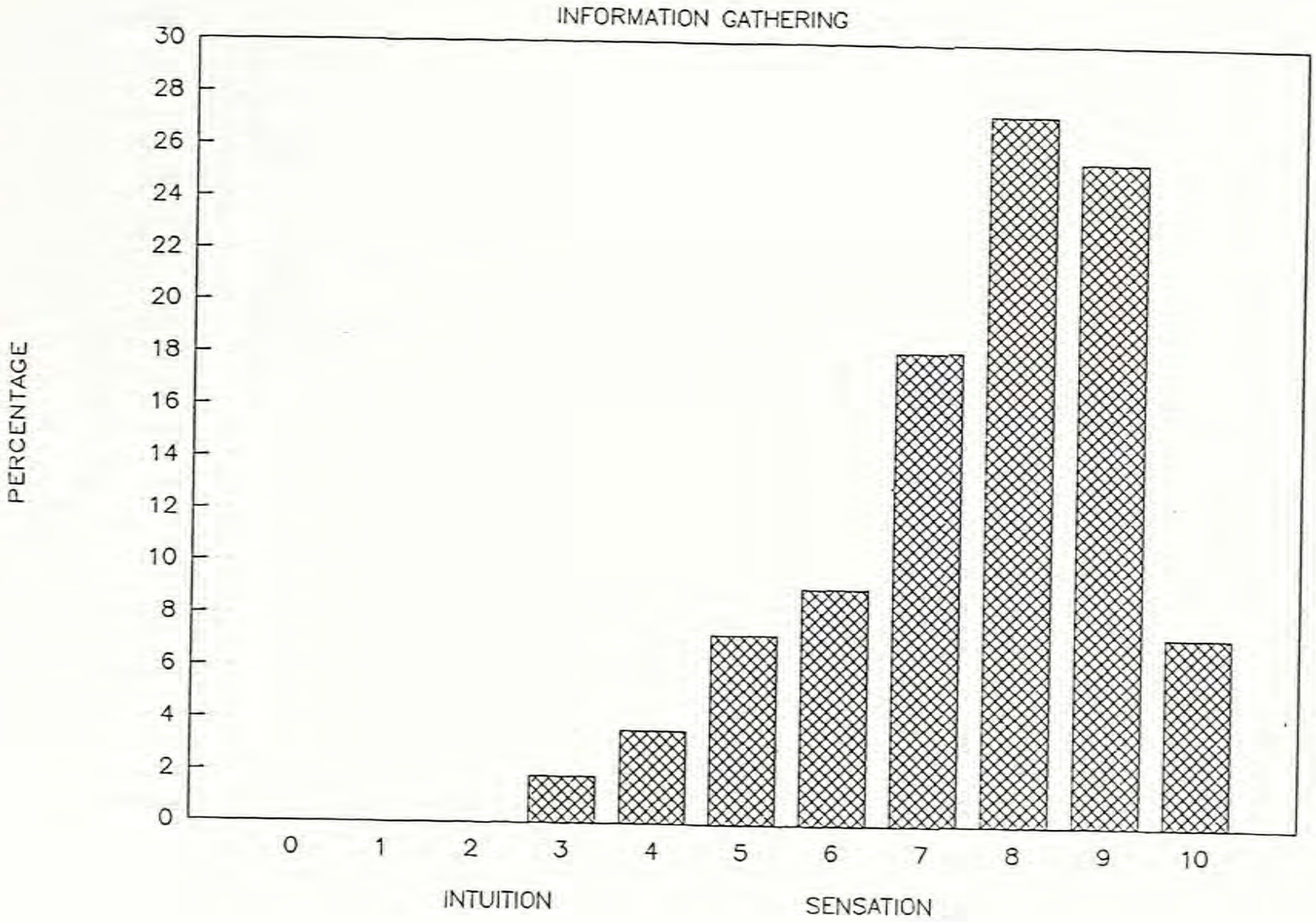

INFORMATION GATHERING
PERCENTAGE
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
0 1 2 3 4 5 6 7 8 9 10
INTUITION
SENSATION

EXHIBIT 20

TEST ON INFORMATION GATHERING STYLE

Mean = 7.582 Std error = .2216

Sample size = 55

$$\text{z-score} = \frac{7.582 - 5}{.2216}$$

$$= 11.65$$

Significance = 0.0000 < 0.05

Information Evaluation : Thinking - Feeling

A score of 0 - 10 was used to measure the "information evaluation type" of the entrepreneur. Ten was the extreme end of "thinking type" and zero was the extreme end of "feeling type". Five would be regarded as neutral. (Graph 6)

It was found that 54.5 percent scored six or higher and 41.8 percent scored four or below. No one scored zero or one. The range was two to ten. The mean was 5.273.There was no significant difference between the two groups. The null hypothesis that two types were equal was supported. (Exhibit 21)

Time Horizon

There were 20 percent of the subjects who believed that 1 or 2 years were the "long-term" in their business. There were 72.7 percent of the subjects who

Graph 6

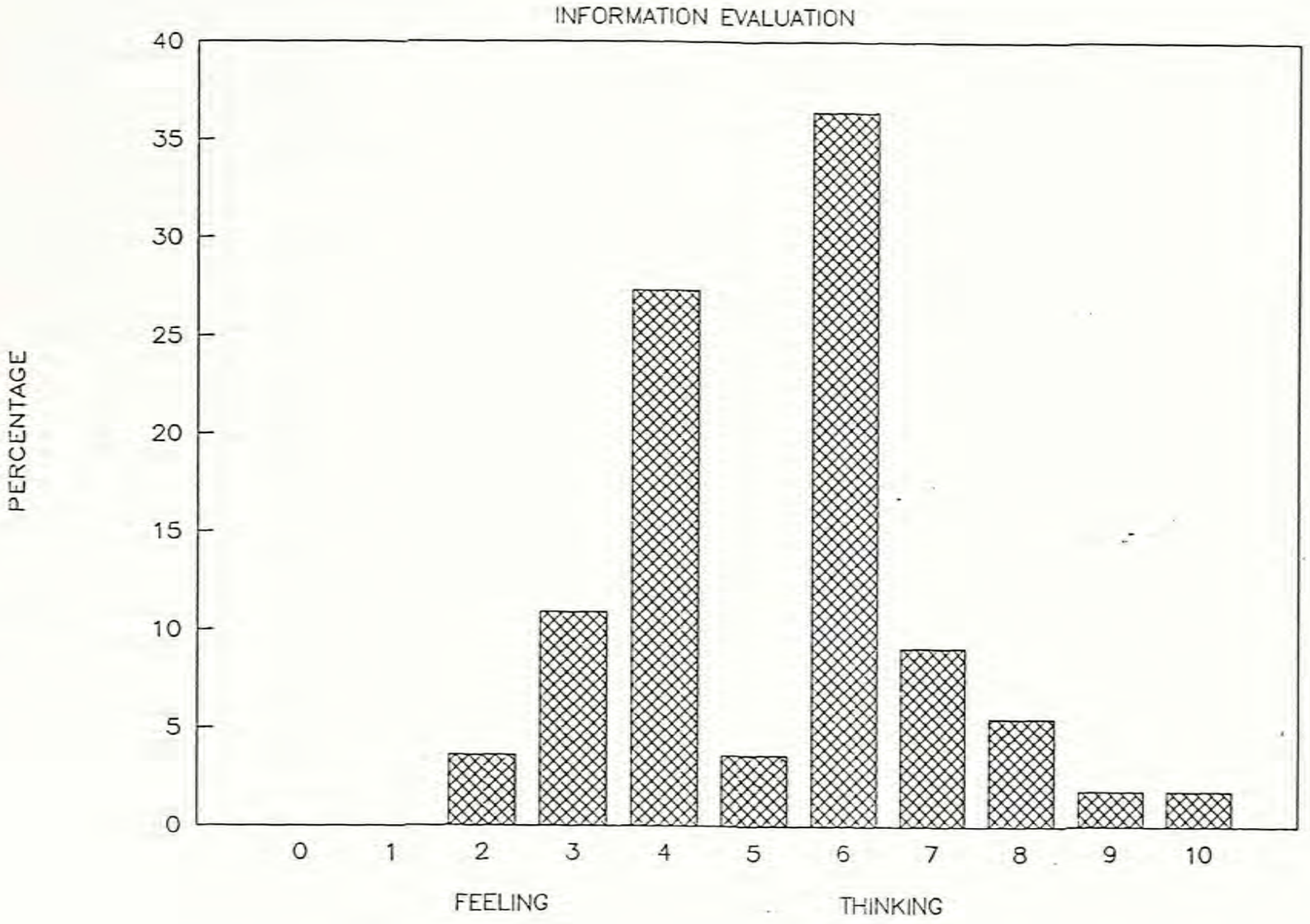

INFORMATION EVALUATION
PERCENTAGE
40
35
30
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
FEELING
THINKING

EXHIBIT 21

TEST ON INFORMATION EVALUATION STYLE

Mean = 5.273 Standard error = .2272

Sample size = 55

$$\text{z-score} = \frac{5.273 - 5}{.2272}$$

$$= 1.2016$$

Significance = 0.114 > 0.05, one side

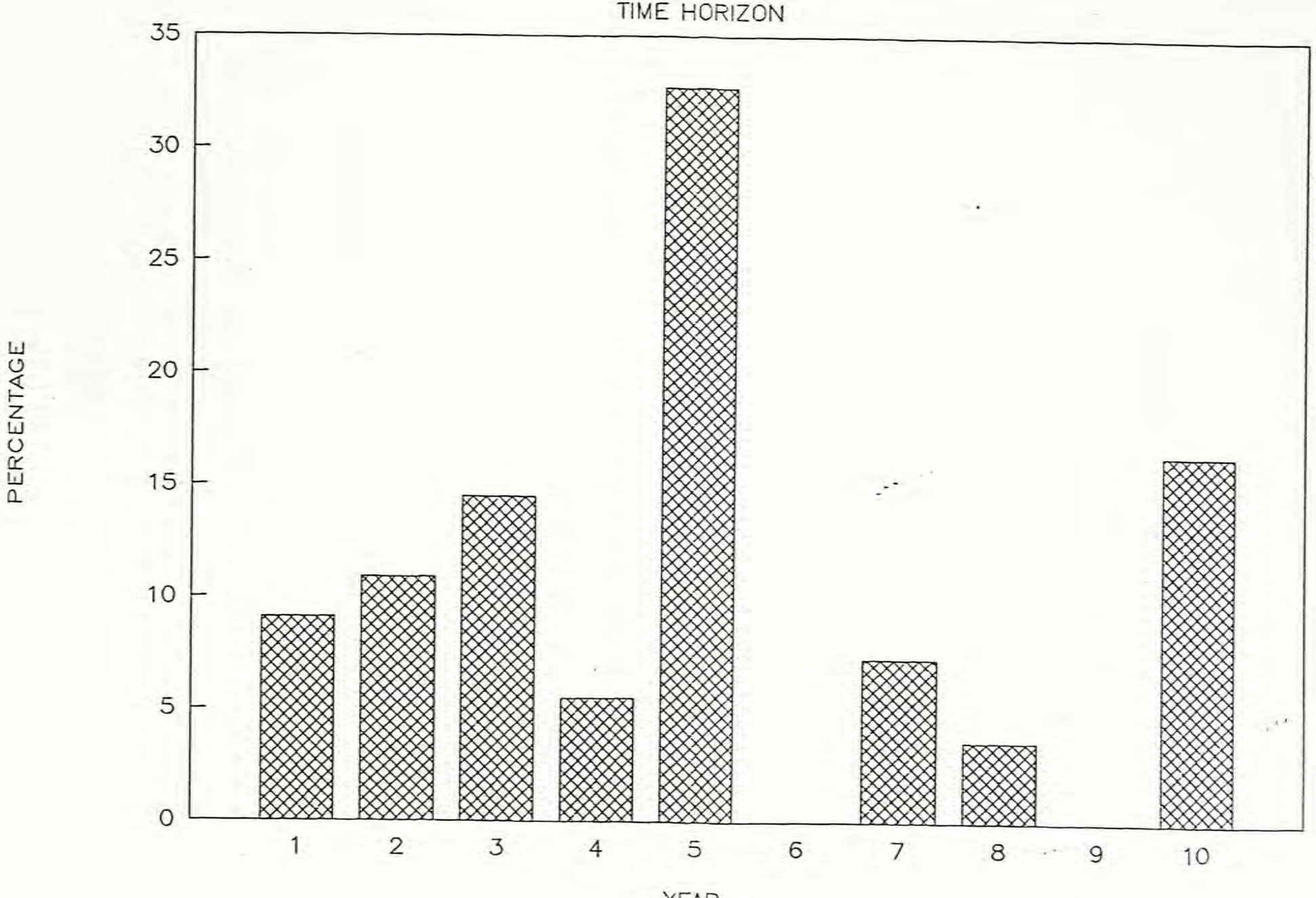
responded that five years or less were the "long-term" in their business. The maximum was ten years. The minimum was one year. It gave an impression that the extrepreneurs of small business had a short vision and did not prepare to conduct their business with a long time horizon to realize long term commitment. They were more prepared to react to short-term changes. (Graph 7)

Motivation

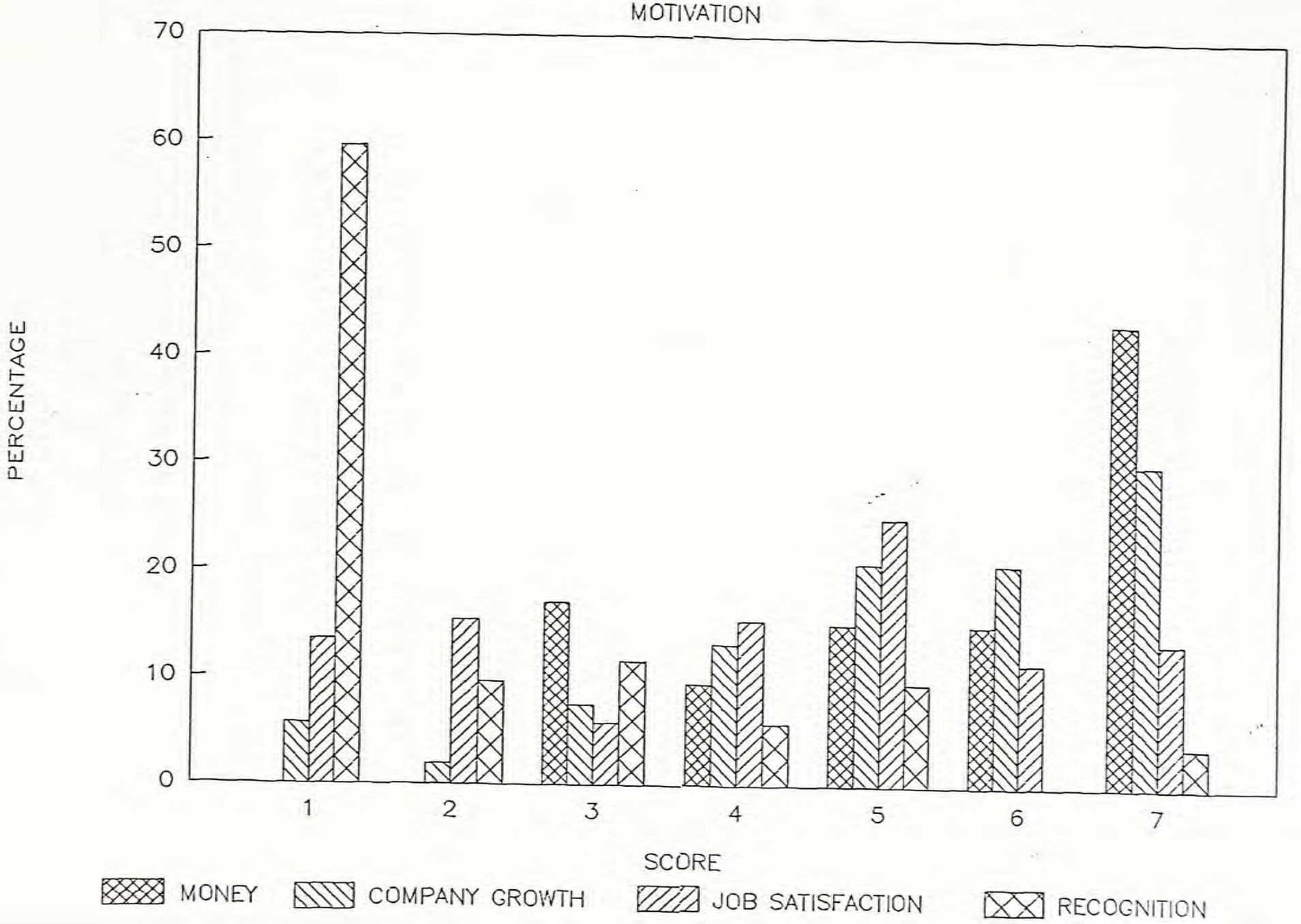
A one to seven scale was used to measure the importance of the four motivations mentioned earlier. The higher the scores, the more important they were. There were 43.4 percent of the subjects who responded with scores of seven to this motivation. (Graph 8)

The result is summarised in Exhibit 22 which shows that entrepreneurs tended to be motivated by money. The higher need of recognition was least emphasized. Growth of the company, which could be associated with

Graph 7


TIME HORIZON
PERCENTAGE
35
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
10
YEAR

Graph 8


MOTIVATION
70
60
50
40
30
20
10
0
PERCENTAGE
1
2
3
4
5
6
7
SCORE
MONEY
COMPANY GROWTH
JOB SATISFACTION
RECOGNITION

more monetary return, was of second importance to montary motivation.

EXHIBIT 22

MOTIVATION SCORES

	Mean	Median	Range	Missing case
Monetary	5.585	6	3-7	2
Non-monetary				
Growth of the company	5.245	6	1-7	2
Job satisfaction	4.115	5	1-7	3
Recognition	2.115	1	1-7	3
Non-monetary average	3.821			

Paired sample t-test was employed to test the null hypothesis that monetary motivation was as important to the entrepreneur as non-monetary motivation. The monetary score was matched against the non-monetary score of the individual. It was shown that the null hypothesis was rejected(Exhibit 23) and the alternative hypothesis that entrepeneurs were more money motivated was supported.

Decision-making Style in the Seven Decision-making Areas

Recruitment of direct subordinates, financial decisions, long term marketing decision and strategic development of the firm were the areas where little

EXHIBIT 23

MONETARY MOTIVATION AGAINST NON-MONETARY MOTIVATION

Paired sample t-test

	Mean	Standard error
Monetary	5.6346	.209
Non-monetary	3.8205	.161

Cases 52

Difference of mean 1.8141 Standard error .273

Correlation of the two variables -.07

t - value 6.64 degree of freedom 51

1-tail significance .000 < .05

delegation were seen. Financial decisions was the area where all entrepreneurs would not delegate the power to their subordinates. 92.6 percent of them would not let the subordinates contribute to decisions apart from getting minor consultation. This was the area where the entrepreneur would not share the decision-making power with his or her subordinates. There were 64.8 percent of the entrepreneurs who would make all financial decisions by themselves without any consultation from the subordinates.

Recruitment of indirect subordinates, short term marketing decisions and daily administration were the areas where some delegation and power-sharing existed. Entrepreneurs were most happy to share decision-making in

daily administration matters.The findings are summarised in Table 4.

We averaged the results in the seven decision areas to give an overall score of the decision-making style. The mean was 3.117. It was near to the Style 3. The interpretation of the overall score is to see the styles as intervals of different degrees of power-sharing in decision-making. The minimum score of the sample was 1.167 and the maximum was 5.333.

Decision-making Style and the Size of the Staff

The cross-section of the size of the staff represented the growth of firms. It also showed the effect of size of staff on the choice of decision-making style as explained in Chapter III. A regression was done to find the correlation between the decision-making style and the size of the staff. A plot is shown on Graph 9 and the summary statistics are shown in Exhibit 24. There was a positive correlation between the two variables and the correlation was significant at .05 level. We could not isolate the cause and effect of the study. About 20 percent (R^2 = 0.19561) of the change of any variable could be explained by the change of the other. The relationship and the predictive power were weak. The slope of the regression suggested that an increase of 12 to 13 (reciprocal of slope) staff would lead to moving the average decision-making style one step forward that is more power-sharing. This was co-incidental with the binodal shape of the distribution of

Graph 9

Decision-making style and the size of the staff

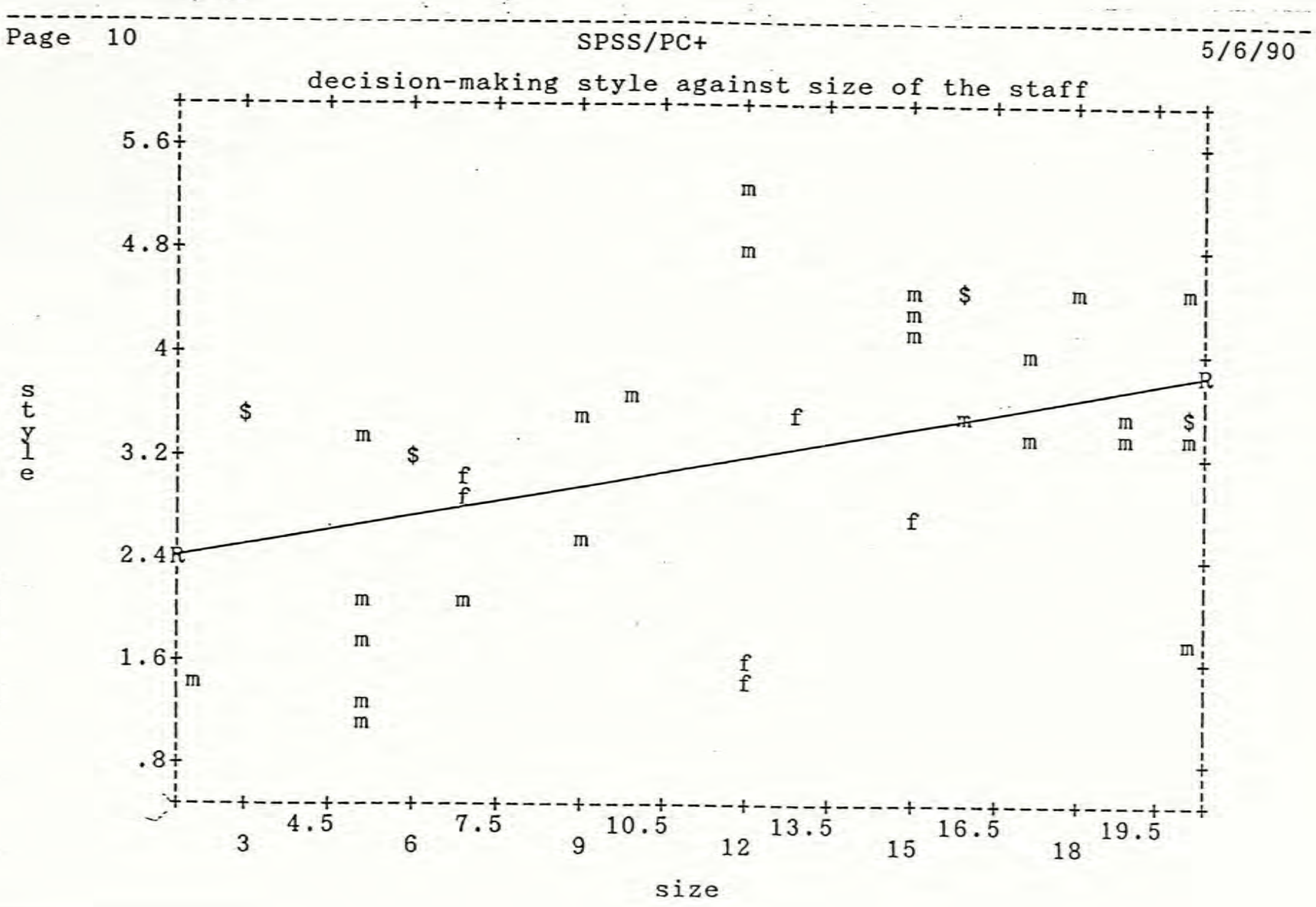


TABLE 4

PERCENTAGE OF SUBJECTS CHOOSING THE SIX STYLES OF DECISION-MAKING IN THE SEVEN DECISION AREAS

	Recruitment						
	Direct	Indirect Subordinates	Financial matters	Short term	Long term	Strategic development	Daily Administration
Style 1	54.5	16.4	42.6	37.0	20.4	20.4	13.0
2	14.5	14.5	22.2	18.2	33.3	14.8	7.4
3	18.2	25.5	27.8	12.7	38.9	57.4	11.1
4	7.3	23.6	7.4	9.1	7.4	3.7	22.2
5	5.5	20.0	0.0	16.4	0.0	0.0	27.8
6	0.0	0.0	0.0	5.5	0.0	3.7	18.5
Total	100.0	100.0	100.0	98.9	100.0	100.0	100.0
Median lies in Style	2	3	2	2	2	3	3

staff size shown earlier in this chapter. This made a subtle suggestion that by increasing the staff size from 8 to 20, one local maximum to another local maximum of occurrence of firm size (staff size), there would result in a shift of decision-making style 1 step towards more power-sharing along the influence-power continuum. A stepwise change in decision-making style might be necessary for growth.

EXHIBIT 24

REGRESSION OF DECISION-MAKING STYLE AGAINST STAFF SIZE

Dependent variable : Decision-making style

Independent variable : Staff size

R^2 = .19567 Significance = .000 < .05

Slope = .07800 Standard error = .02193

Correlation between Endogenous and Demographic Factors, and Decision-making Style

Before a multi-regression was run with the factors as independent variables and the decision-making style as dependent variable, the effect of sex on decision-making style was first identified. If a significant effect on decision-making style was found, it would be isolated. A two groups t-test was conducted to compare the means of decision-making styles between the male and the female groups. The result, which is

summarized in Exhibit 25, shows that there was no significant difference between the decision-making styles adopted by male and female groups. Hence the effect of sex on decision-making style was taken as neutral and this factor was withdrawn from the following analysis.

EXHIBIT 25

TWO GROUPS T-TEST ON MEAN DECISION-MAKING STYLES OF THE TWO SEXES

	Number	Mean	S. E.
Male	41	3.1301	.168
Female	13	3.0769	.246

Pooled variance			Separate variance		
t	df	2-tailed significance	t	df	2-tailed significance
.16	52	.872	.18	24.16	.860

Both significances were greater than 0.05

The result of the regression using the forward regression technique showed that only one of the two Jung's psychological typologies employed in this study was an influential factor to decision-making style. A sensation-type entrepreneur tended to share less power with his or her subordinates.

The other factor that showed correlation with

decision-making style was the motivation score of the entrepreneur. The more money-motivated the entrepreneur was, the more autocratic or less willing to share power with his or her subordiantes he or she was.

The other factors including risk attitude, information evaluation style, time horizon, age and education were not shown to be influential to decision-making style.

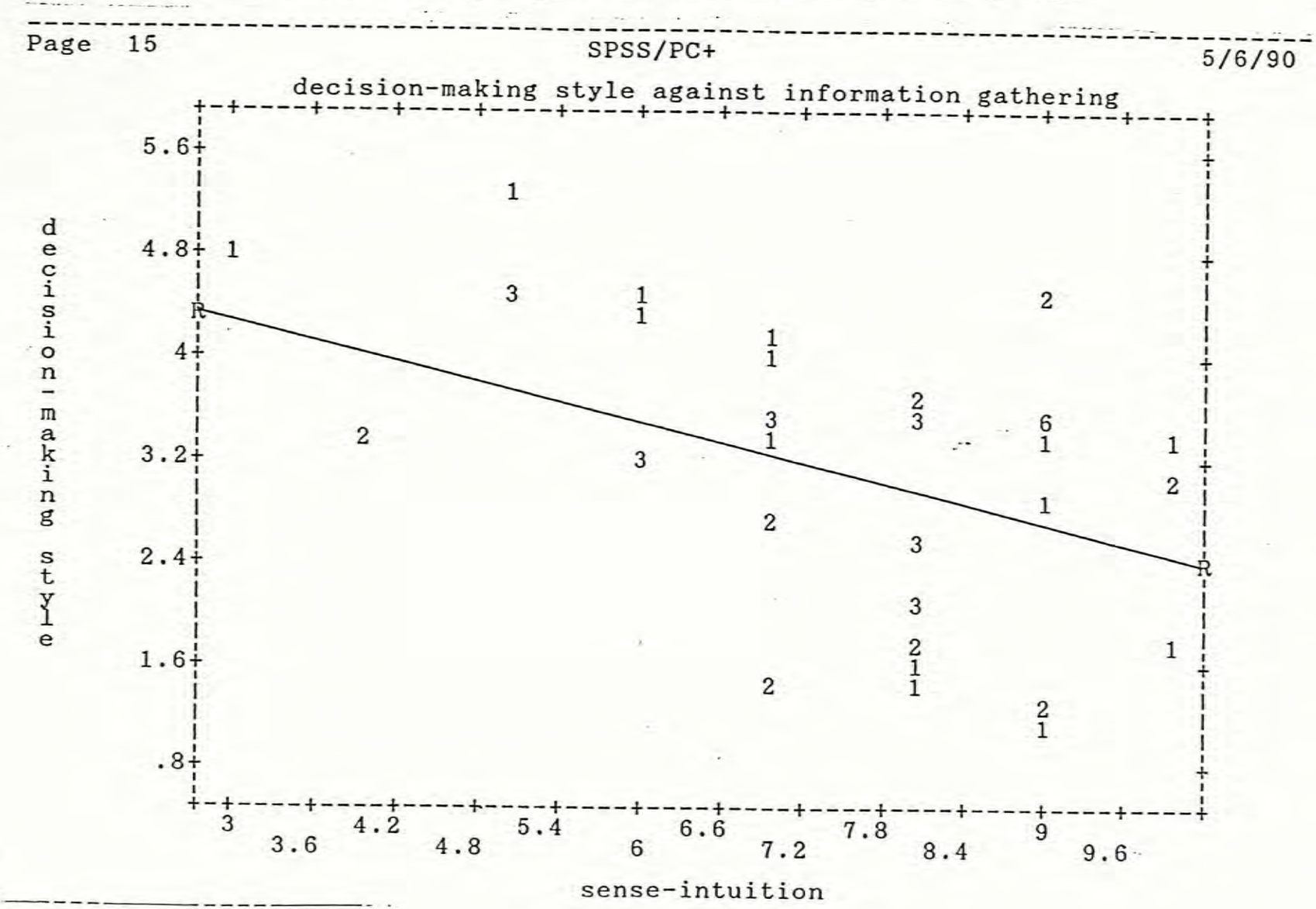
The two factors, information gathering style and monetary motivation score accounted for 27 percent (R^2 = .26654) of the decision-making style. This left another 73 percent to be explained by other factors not considered in this study. Exhibit 26 summaries the findings.

Plots of decision-making style against sensation-intuition type, and decision-making style against monetary motivation are score shown on Graph 10 and 11 respectively.

Three outstanding odd cases of monetary motivation score higher than five were observed. As regression result would be very much affected by these odd extreme values, regression was done again with these three cases rejected . The result is summarised in Exhibit 27. This time, monetary motivation score did not stand out to be an influential factor. No other previously discarded factors became important in this regression. Sensation-intuition type remained to be as an important factor that explained 13 percent of the decision-making style.

Graph 10

Decision-making style and information gathering style



Graph 11

Decision-making style and monetary motivation score

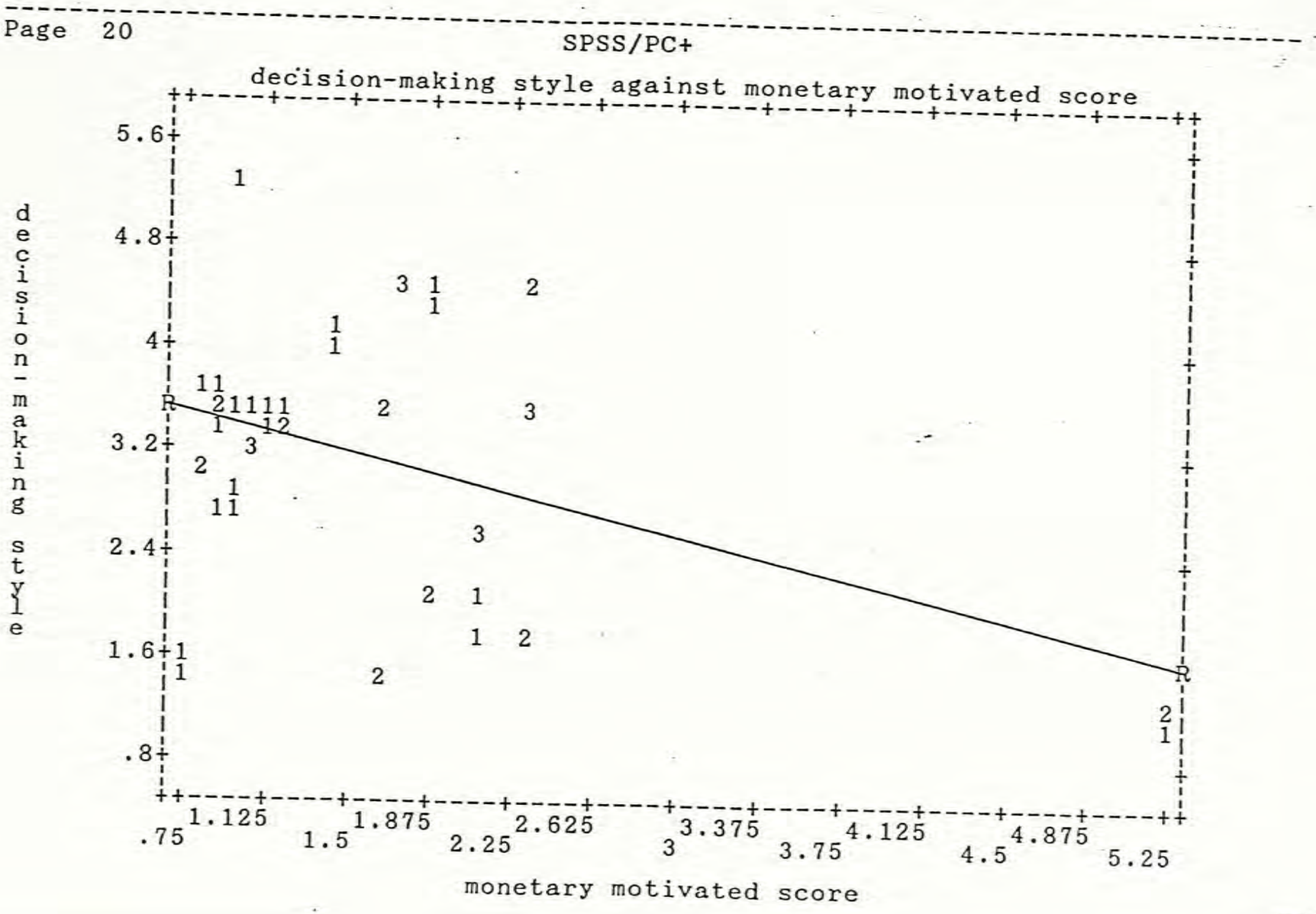


EXHIBIT 26

REGRESSION OF DECISION-MAKING STYLE ON FACTORS

Forward regression

Step one

1. Sensation-Intuition

R =	0.16579	Significance T-statistic=		0.0061	
Slope =	-2.5997	S.E.	0.8998	Significance T-statistic	0.00017
Constant	5.01459	S.E.	0.6930	Significance T-statistic	0.0000

Step two

2. Adding monetary motivation score

	Slope	S.E.	T-statistic
Sensation-Intuition	-0.21770	0.08723	0.0167
Monetary motivation	-0.33846	0.14262	0.0224
Constant	5.24350	0.66474	0.0000

Step three

No more variable was added as the significance criterion of 0.05 would be intruded.

EXHIBIT 27

REGRESSION ON FACTORS EXCLUDING ODD CASES

Step 1 Sensation - Intuition

R^2 = .13134

Significance of F-statistic = .0183 < .05

Slope = - .21875 S.E. = 0.8814

Significance of T-statistic = .0183

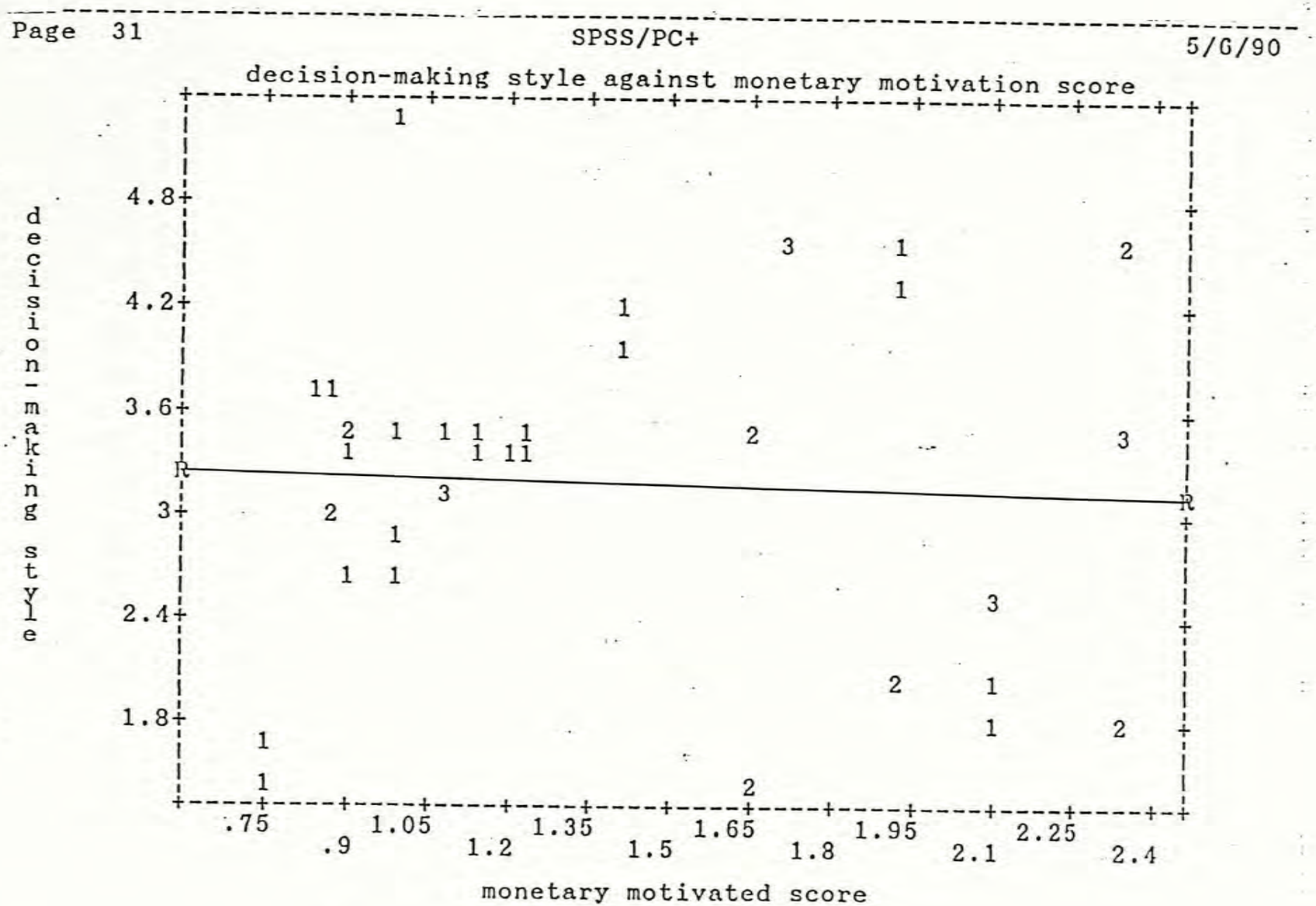
Step 2 Incorporation of other factors violated the .05 significance criteria. Regression stopped.

Plots of the regression are shown again on graph 12 with the three odd cases discarded. The relation between decision-making style and sensation-intuition type remained visually significant while the relation between decision-making style and money motivation score was no longer obvious. (Graph 13)

Graph 12

Second plot for decision-making style

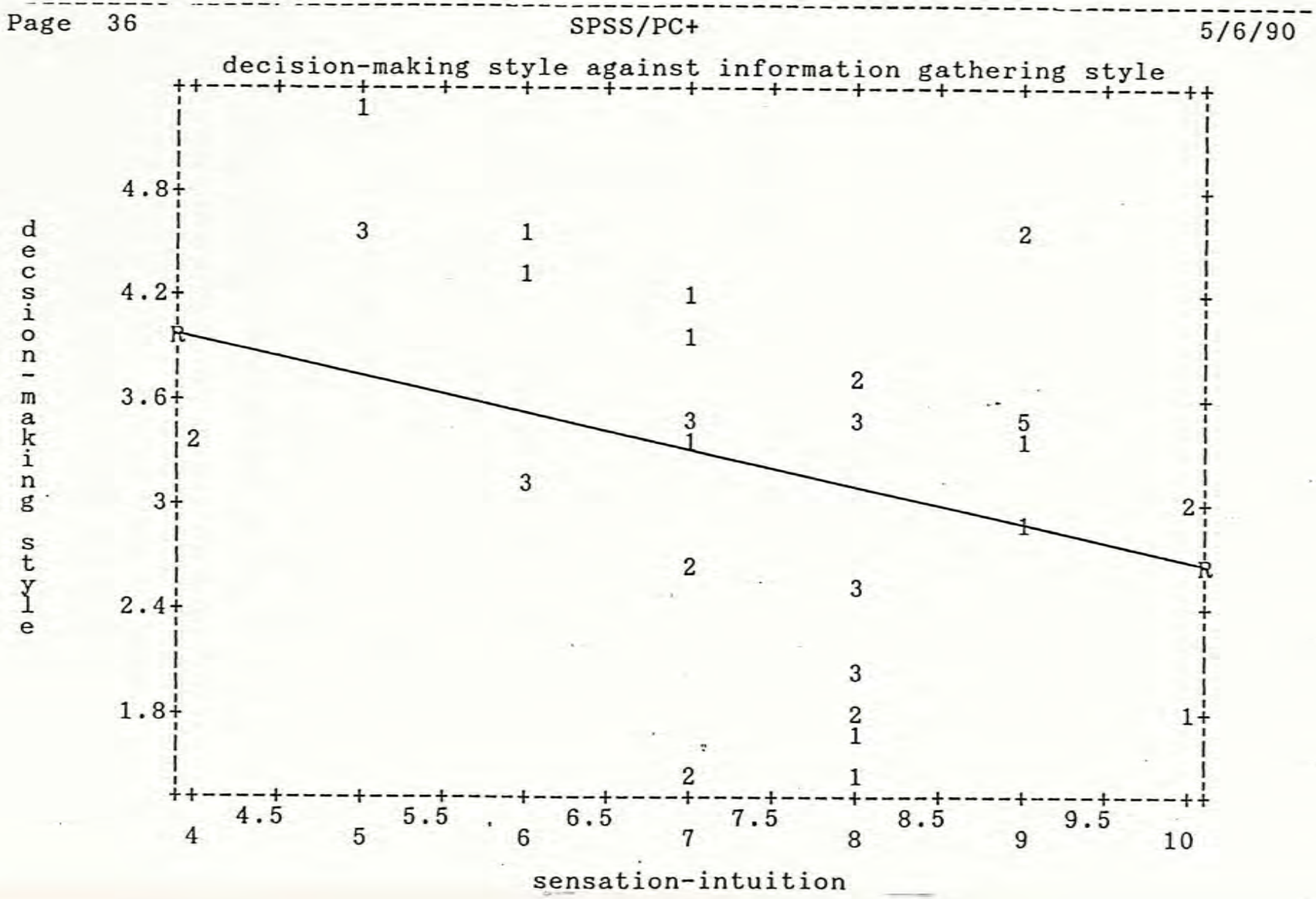
and information style



Graph 13

Second plot for decision-making style

and monetary motivation score



CHAPTER VI

SUMMARY OF THE STUDY

The entrepreneurs in this study were in general well educated. They had an age spread between 26 to 63. They were money motivated with relatively short vision. A large proportion of them were "sensation-type", as much as 87.3 percent of the total, which meant that they emphasized experience and believed in what they could touch and see. They made decisions mainly by themselves alone especially in financial matters and long-term development of their firms. Delegation and participation in decision-making were not common.

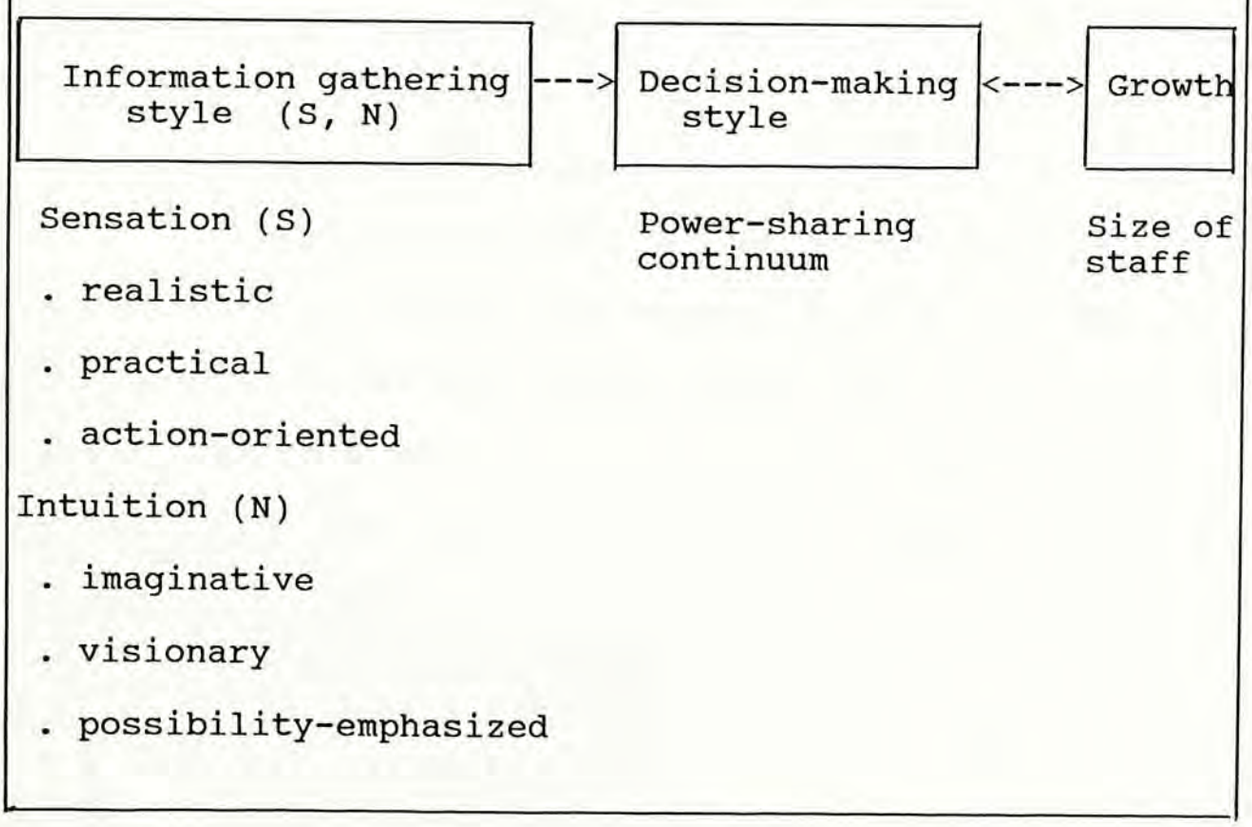
It was shown that there was a relationship between size of the firm (number of the staff) and decision-making style. As the firm grew larger, more participation in decision-making and delegation were seen. Samples with fewer staff were more autocratic. Delegation and participation in decision-making were the necessary result of growth because the spans of control could not be expanded unlimitedly. Entrepreneurs must delegate to expand. On the other hand, participation in decision-making and delegation led to better management and hence success and growth of the firm.

Among the factors postulated in this study, only

the psychological distinction between sensation-type and intuition-type was found to have a substantiated relationship with decision-making style. The other factors namely, information evaluation style, monetary motivation, time horizon of business vision, risk attitude, sex, age and education did not have a bearing on decision-making style of these small business entrepreneurs. The model of the study finalised at is shown on Exhibit 28.

EXHIBIT 28

THE MODEL OF THIS STUDY



CHAPTER VII

DISCUSSION

The study was aimed at getting more insights in the areas of growth and decision-making style in small business ,and factors affecting them. Taking into account of the adverse effects of autocratic style in decision-making on effective management of a growing firm, the study indicated that there should be a change or modification of attitude of entrepreneurs in small business to incorporate visionary thoughts ,and participation and delegation in decision-making into their management philosophy.

Firms in Hong Kong are relatively small. There is a lack of advanced technology in the industry. This particular structure means that the economy is not committed to risky technology and capital intensive investment. The advantage of this structure is that it allows flexibility in reallocation of resources within the short-run and consequently, capitalisation of short-term opportunities. The adverse side of this structure is, of course, the economy is going to miss the high return and the opportunities in advanced technological investment. Automation and advances in the high-tech area are the keys to increase productivity now and in the

future. It is very important that small business entrepreneurs should have visionary and imaginative insights to develop their business in these areas. Appreciation of expertise and specialisation of management roles are needed to facilitate healthy growth of small businesses.

Despite the lack of information and research on small business entrepreneurs in Hong Kong, understanding the nature of small business management is important because small businesses are very often the sources of innovation and thrusts for economic development. The future of the colony rests on the viability of a strong free-market economy, particularly in view of changes in 1997. With this in mind, our preliminary results, although limited, seem to indicate an important field for future research. Building on the results of this study, entrepreneurs could be studied in terms of their decision-making process, education, motivation and psychological types.

APPENDIX 1

SPSSPC PROGRAM

```
data list file='c:\new\small.dat' / record 1-2 staff 3-4
edu 5
      sex 6 age 7-8 horizon 9-10 risk1 11-13 risk2 14-16
      money 17 growth 18 satisf 19 recogn 20
      recruitd 21 recruiti 22 finance 23 smark 24 lmark
25 strategy 26
      dailyadm 27  sense 28-29 thinking 30-31.

variable label
      record      'record number'
      staff       'number of staff'
      edu         'education of the subject'
      sex         'sex of the subject'
      age         'age of the subject'
      horizon      'time horizon of business -definition
of long term'
      risk1            'required return for lower risk
position'
      risk2           'required return for higher risk
position'
      money       'motivation - monetary return'
      growth      'motivation - growth of the company'
      satisf      'motivation - job satisfaction'
      recogn        'motivation - recognition from the
others'
      recruitd     'decision-making - recruiting direct
subordinates'
      recruiti    'decision-making - recruiting indirect
subordinates'
      finance     'decision-making - financial matters'
      smark       'decision-making - short term marketing
decisions'
      lmark       'decision-making - long term marketing
strategy'
      strategy          'decision-making  -  strategic
development'
      dailyadm    'decision-making - daily administration
matters'
      sense        'information gathering - sense versus
intuition'
      thinking      'information  evaluation  -  thinking
```

```
versus feeling'.


value label
      edu              1 'primary' 2 'secondary' 3 'post-
secondary'
                     4 'graduate' 5 'post-graduate'/
      sex            1 'male' 2 'female' /
      recruitd to dailyadm   1 'style 1' 2 'style 2' 3
'style 3'
                             4 'style 4' 5 'style 5' 6
'style 6'.

missing value risk1 risk2 (999) money to dailyadm (9)
sense thinking (99).
compute risk = risk2/risk1.


compute                                                 style
=(recruitd+recruiti+finance+smark+lmark+strategy+dailyadm)/6.
compute nonmon  =(growth+satisf+recogn)/3.
compute mmotiv = money*3/(growth+satisf+recogn).

variable label
    risk    'risk attitude'
    style   'decision-making style'
    nonmon  'non-monetary motivation'
    mmotiv  'money motivated score'.

list all.

frequencies/variables staff/ntiles 4
/histogram increment(2) normal/statistics.

frequencies /variables sex edu/ntiles 4
/histogram normal/statistics.

frequencies /variables age/ntiles 4
/histogram      increment(5)      min(20)      max(70)
normal/statistics.

frequencies /variables horizon/ntiles 4
/histogram increment(2) normal/statistics.

frequencies /variables money growth satisf recogn nonmon
/ntiles 4/histogram increment(1) min(1) max(8) normal
```

```
/statistics.

frequencies /variables recruitd recruiti finance smark
 lmark strategy dailyadm style
/ntiles 4/histogram increment(1) min(1) max(7) normal
/statistics.

t-test/pairs recruitd recruiti finance smark lmark
strategy dailyadm.

frequencies /variables sense thinking/ntiles 4
/histogram increment(1) min(0) max(11) normal
/statistics.

npar tests/k-s (normal 5,1.73) thinking.

t-test /pairs money with nonmon.

plot/ format regression
/title 'decision-making style against size of the firm'
/vertical 'style'/horizontal 'size'/vsize 16 /hsize 60
/plot style with staff by sex.

t-test /groups sex(1,2)/variables style.

regression variables= style mmotiv sense thinking risk
horizon edu age /
          dependent= style/
          method=forward/
          scatterplot(*res,*pre).

plot /format regression/title 'horizon against
information gathering'
/vertical 'horizon'/horizontal 'information gathering
style'
/vsize 16/hsize 60/plot horizon with sense.

plot/format regression/title 'style against information
gathering '
/vertical 'decision-making style'/horizontal 'sense-
intuition'
/vsize 16/hsize 60/plot style with sense.

plot/format regression/title 'style against monetary
motivation '
/vertical 'decision-making style'/horizontal 'monetary
```

```
motivated score'
/vsize 16/hsize 60/plot style with mmotiv.

plot/ format regression
/title 'information gathering  against monetary motivated
score'
/vertical    'sense-intuition'/horizontal    'monetary
motivated score'
/vsize 16 /hsize 60/plot sense with mmotiv.

select if (mmotiv < 4).
regression variables= style mmotiv sense thinking risk
horizon edu age /
           dependent= style/
           method=forward/
           scatterplot(*res,*pre).
plot/format regression/title 'style against monetary
motivation '
/vertical  'decision-making  style'/horizontal  'monetary
motivated score'
/vsize 16/hsize 60/plot style with mmotiv.
plot/ format regression
/title 'information gathering  against monetary motivated
score'
/vertical    'sense-intuition'/horizontal    'monetary
motivated score'
/vsize 16 /hsize 60/plot sense with mmotiv.
```

APPENDIX 2

DATA FILE

```
0103124702010020555434313340907
0210313605030070565741333350802
0320415010015050771115354360906
0412314903010030577144464460504
0516316104020040442155253250504
0606324105020030556324222340603
0719415605005015675435222250706
0819413505050080657413323350406
0905215003015070363135113340905
1005216201030030727122112310806
1120222710030080664112342360906
1215414005025999775324443350706
1320514310010050354232xxxxx0906
1407424707050070577113122350908
1507413502100500772213111140804
1612225005020035365111131110806
1720313510020040771113111130803
1815313905050100733515363360606
1915425703035999345123113330704
2009413301015070745111113350807
2109414805020100771114352240804
2205413203025060712111111110904
2302115105015040654213111110704
2417514805020060775513433330706
2512125005015025365112131110806
2620413510020045771113111131003
2715214005040999733515263360606
2815525605020090335123113330704
2918315110999999771115354360906
3012414303010030999944254460304
3116226304020040442155253250504
3206414105020030556324222340603
3309413202015080745111113350807
3409314505015100771114352240804
3505513201025999712111111120904
3602215004015040654213111110709
3716314805020060766534332330710
3803514602010020999934313340907
3910213707030075564741333350802
4013322610030080664112342360906
```

411731410501510077532443335070 6
422011421001005035413224262090 6
430732480705007046711312236100 8
440751350205050077221311114080 3
452031590500501567653522225070 6
462051310803008065731332335040 6
470511510399999936993511334100 5
480531630102599973611211231080 6
492011421001505035413224262090 6
500732480805007046711312236100 8
511622630302004044215525325050 4
520641410702003055632422234060 3
530941320201508074511111335080 7
540931450301599977111435224080 4
550551320102506071211111112090 4

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